The 29th World Congress on Controversies in Obstetrics, Gynecology & Infertility (COGI)

All About Women’s Health

In partnership with Reproductive BioMedicine Online (RBMO)

December 2-4, 2021
BERLIN, GERMANY

Congress Program & Abstracts

www.cogi-congress.org
# Timetable

## Thursday, December 2, 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>HALL A</th>
<th>HALL B</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:30-15:30</td>
<td>THE BEST OF RBMO 2020-2021</td>
<td>14:00-16:45 LASER COURSE</td>
</tr>
<tr>
<td>15:30-16:20</td>
<td>FROM INFERTILITY TO BIRTH</td>
<td>Attendance by pre-registration only. First come-first served</td>
</tr>
<tr>
<td>16:20-17:50</td>
<td>PLENARY SESSION</td>
<td></td>
</tr>
<tr>
<td>17:50-18:30</td>
<td>OPENING SESSION NOBEL PRIZE LAUREATE ROBERT G. EDWARDS ANNUAL LECTURE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BEST ABSTRACT AWARDS ANNOUNCEMENT</td>
<td></td>
</tr>
<tr>
<td>18:30-19:30</td>
<td>NETWORKING RECEPTION</td>
<td></td>
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</table>

## Friday, December 3, 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>HALL A</th>
<th>HALL B</th>
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</thead>
<tbody>
<tr>
<td>08:30-10:00</td>
<td>INFERTILITY/ART/IVF</td>
<td>GYNECOLOGY</td>
<td>FETOMATERNAL MEDICINE</td>
</tr>
<tr>
<td>10:00-10:20</td>
<td>Coffee break, visit the exhibition and poster viewing</td>
<td></td>
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</tr>
<tr>
<td>10:20-11:50</td>
<td>THE FUTURE OF IVF I</td>
<td>INDUSTRY SUPPORTED SESSION</td>
<td>PRENATAL DIAGNOSIS</td>
</tr>
<tr>
<td>11:50-12:10</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:10-13:40</td>
<td>INDUSTRY SUPPORTED SESSION</td>
<td>VULVAR AND VAGINA</td>
<td>GESTATIONAL DIABETES MELLITUS (GDM)</td>
</tr>
<tr>
<td>13:40-14:30</td>
<td>Lunch break, visit the exhibition and poster viewing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:30-16:30</td>
<td>SURGICAL TREATMENT</td>
<td>PRESCRIBING HRT</td>
<td>ROUND TABLE DISCUSSION ON PRETERM LABOUR</td>
</tr>
<tr>
<td>16:30-16:50</td>
<td>Coffee break, visit the exhibition and poster viewing</td>
<td></td>
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</tr>
<tr>
<td>16:50-18:20</td>
<td>ISMAAR SESSION</td>
<td>GLOBAL HEALTH INITIATIVES IN GYNECOLOGICAL MALIGNANCIES</td>
<td>PERINATAL CHALLENGES</td>
</tr>
</tbody>
</table>

## Saturday, December 4, 2021

<table>
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</thead>
<tbody>
<tr>
<td>08:30-10:00</td>
<td>INFERTILITY/ART/IVF</td>
<td>GYNECOLOGY</td>
<td>FETOMATERNAL MEDICINE</td>
</tr>
<tr>
<td>10:00-10:20</td>
<td>Coffee break, visit the exhibition and poster viewing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:20-11:50</td>
<td>PCOS</td>
<td>WOMEN'S HEALTH AND WEALTH A PREIS SCHOOL ACADEMY SESSION</td>
<td>PRE-ECLAMPSIA TOXEMIA (PET) AND INTRAUTERINE GROWTH RETARDATION (IUGR)</td>
</tr>
<tr>
<td>11:50-12:00</td>
<td>Break</td>
<td></td>
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</tr>
<tr>
<td>12:00-13:30</td>
<td>ENDOMETRIOSIS ADENOMYOSIS</td>
<td>IN SEARCH OF NEW PERSPECTIVES: POI MAINLY DRIVEN BY GENETICS</td>
<td>LABOUR AND DELIVERY</td>
</tr>
<tr>
<td>13:30-14:20</td>
<td>Lunch break, visit the exhibition and poster viewing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:20-15:50</td>
<td>HORMONAL AND MORAL ASPECTS OF HUMAN FERTILITY</td>
<td>SLS: THE SOCIETY OF LAPAROENDOSCOPIC SURGEONS</td>
<td>INTRAPARTUM CARE (PART I)</td>
</tr>
<tr>
<td>15:50-16:00</td>
<td>Coffee break, visit the exhibition and poster viewing</td>
<td></td>
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</tr>
<tr>
<td>16:00-17:00</td>
<td>PREGNANCY LOSS</td>
<td>INDUSTRY SUPPORTED SESSION</td>
<td>INTRAPARTUM CARE (PART II)</td>
</tr>
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Exhibition can be found on the foyer level as well as on the second floor.
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<td>Industry</td>
<td>83</td>
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</table>
Dear Colleagues,

COGI and RBMO are delighted to welcome you to the 29th World Congress on Controversies in Obstetrics, Gynecology and Infertility.

Following the success of COGI 2020, which was fully digital and welcomed over 1000 delegates from all around the world, COGI will again welcome world renowned leaders in the field of Ob/Gyn and infertility, to review advances, breakthroughs and controversies in the field via round table discussions, debates, and lectures. Highlights will include the “Robert G. Edwards Nobel Prize Laureate” lecture, cutting edge “countercurrent” lectures by leading experts “who think differently”, an inspiring fetomaternal medicine program, sessions on early prenatal diagnosis, pregnancy support, age-related risks, nutrition, the epidemic of multiple pregnancies, HPV, menopause, and more. As always, there will be ample time during every session for speaker-audience discussions.

In addition, we thank the next generation of physicians, scientists and researchers who have submitted abstracts for consideration for the Young Scientist Award.

Welcome to Berlin!

Sincerely,

COGI Congress Co-Chairpersons

Zion Ben Rafael
Israel

Bart C.J.M. Fauser
The Netherlands

Rene Frydman
France

Wolfgang Henrich
Germany

Jalid Sehouli
Germany
know what matters in

Women’s and Children’s Health

karger.com/childrenshealth
General Information

VENUE
Seminaris Campus Hotel
Takustraße 39
14195, Berlin

LANGUAGE
The official language of the congress in English.

COGI CONGRESS HOURS
Thursday, December 2 14:00-18:30
Friday, December 3 08:30-18:20
Saturday, December 4 08:30-17:00

CONGRESS ADMISSION – NAME BADGE
Admission to the scientific sessions, exhibition area and e-Posters is available to registered delegates only.

EXHIBITION OPENING HOURS (Foyer level and Second floor)
Thursday, December 2 18:30-19:30 (Networking session)
Friday, December 3 08:30-16:50
Saturday, December 4 08:30-16:00

POSTERS
All the posters are presented in electronic format. The e-posters are situated in the exhibition area on the second floor and online.

CERTIFICATE OF ATTENDANCE (non-CME/CPD)
Certificates of attendance will be sent by email after the congress to all registered delegates.

CME ACCREDITATION
The 29th COGI Congress has been accredited by the European Accreditation Council for Continued Medical Education (EACCME®) for a maximum of 16 CME credits (ECMEC®s).
To receive your CME accreditation certificate, please visit the congress website after the congress and complete the online form. The deadline to claim points is December 20, 2021. Your certificate will be sent to you approximately 60 days after completion of the survey.

LIABILITY AND INSURANCE
The COGI congress secretariat and the organizers cannot accept liability for personal accidents, loss or damage to private property, or any COVID 19 related loss, of participants, either during or directly arising from the 29th COGI Congress.
Participants are advised to make their own arrangements with respect to health and travel insurance.

RECORDING POLICY
Recording (photographic, video and audio) of the session is strictly prohibited.

SOCIAL MEDIA
Follow COGI social media pages for the latest updates, key date reminders, and discussions with colleagues and experts from around the world.

COGI Congress
Controversies in Obstetrics, Gynecology & Infertility (COGI)
@cogicongress / #COGI
www.instagram.com/cogi_congress
cogicongress
Scientific Program
**THURSDAY, DECEMBER 2**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session/Activity</th>
<th>Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>14:30-15:30</strong></td>
<td><strong>THE BEST OF RBMO 2020-2021</strong></td>
<td><strong>A</strong></td>
</tr>
<tr>
<td><strong>Capsule</strong></td>
<td>The three best papers published in RBMO in 2020 are presented in this session</td>
<td></td>
</tr>
<tr>
<td><strong>Chairperson</strong></td>
<td><strong>Bart Fauser, Netherlands</strong></td>
<td></td>
</tr>
<tr>
<td>14:30-14:50</td>
<td><strong>Drug-free in-vitro activation of follicles for infertility treatment in poor ovarian response patients with decreased ovarian reserve</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Kazuhiro Kawamura, Japan</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:50-15:10</td>
<td><strong>‘There is only one thing that is truly important in an IVF lab: Everything’ Cairo consensus guidelines on IVF culture conditions</strong></td>
<td></td>
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<tr>
<td><strong>Catherine Racowsky, USA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:10-15:30</td>
<td><strong>Organoids can be established reliably from cryopreserved biopsy catheter-derived endometrial tissue of infertile women</strong></td>
<td></td>
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<tr>
<td><strong>Bich Ngoc Bui, Netherlands</strong></td>
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</tr>
</tbody>
</table>

| **15:30-16:20** | **FROM INFERTILITY TO BIRTH**                                                    | **A** |
| **Chairpersons**| **Zion Ben Rafael, Israel**                                                      |       |
| | **Wolfgang Henrich, Germany**                                                   |       |
| 15:30-15:55   | **Nature to clinics: Paradigm shift. Embryo-maternal signaling**                |       |
| **Eytan R. Barnea, USA** |                                                                 |       |
| 15:55-16:20   | **Fertility, pregnancy, and perinatal outcome among parents in the fourth and fifth decade of life. Pro and contra** |       |
| **Christian Dadak, Austria** |                                                               |       |

<p>| <strong>16:20-17:50</strong> | <strong>PLENARY SESSION</strong>                                                            | <strong>A</strong> |
| <strong>Capsule</strong>    | <strong>What are the limits of IVF?</strong>                                                 |       |
| <strong>Chairpersons</strong>| <strong>Bart Fauser, Netherlands</strong>                                                      |       |
| | <strong>Zion Ben Rafael, Israel</strong>                                                      |       |
| 16:20-16:40   | <strong>This talk will provide an overview of biosensors in medicine, with an emphasis on biosensing in the intrauterine environment</strong> |       |
| <strong>Ying Cheong, UK</strong> |                                                                 |       |
| 16:40-16:50   | <strong>Discussion</strong>                                                                  |       |
| 16:50-17:10   | <strong>Human pluripotent stem cells are being used to model different aspects of human development from directed differentiation to a specific organ (in organoids) to models of gastrulation (in gastruloids) and blastocyst formation (blastoids). This field is moving forward very fast but remains highly controversial. I will review the relevant scientific developments as well as touch on potential ethical and legal implications.</strong> |       |
| <strong>Susana M. Chuva de Sousa Lopes, Netherlands</strong> |       |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:10-17:20</td>
<td>Discussion</td>
</tr>
</tbody>
</table>
| 17:20-17:40  | **Recent efforts of understanding development of human embryos past implantation**  
Single cell analyses of human embryo development  
**Magdalena Zernicka-Goetz, UK** |
| 17:40-17:50  | Discussion                                                              |

### 17:50-18:30 OPENING SESSION

**Chairpersons**  
Zion Ben Rafael, Israel  
Bart Fauser, Netherlands  
Wolfgang Henrich, Germany

- 17:50-18:20 Nobel prize laureate Robert G. Edwards annual lecture  
  **Recent efforts and challenges for growing mammalian embryos ex utero**  
  Advanced artificial mammalian embryogenesis ex utero  
  **Jacob Hanna, Israel**
- 18:20-18:30 Best Abstract Awards

### 18:30 NETWORKING RECEPTION

**LASER COURSE**

- **14:00-16:45** LASER COURSE  
  **See page 84, 85**

**HALL B**
# INFERTILITY/ART/IVF

## FRIDAY, DECEMBER 3

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30-10:00</td>
<td>THE FUTURE OF IVF I</td>
<td>HALL A</td>
</tr>
<tr>
<td><strong>Chairpersons</strong></td>
<td>Zion Ben Rafael, Israel Joyce Harper, UK</td>
<td></td>
</tr>
<tr>
<td><strong>Capsule</strong></td>
<td>Expanded genetic screening: The more we can, the more we spend - what is the limit?</td>
<td></td>
</tr>
<tr>
<td>08:30-09:00</td>
<td>Debate: Preparation: Should we be using expanded genetic screening in all patients?</td>
<td></td>
</tr>
<tr>
<td>08:30</td>
<td>Yes: Rita Vassena, Spain</td>
<td></td>
</tr>
<tr>
<td>08:40</td>
<td>No: Tessa Homfray, UK</td>
<td></td>
</tr>
<tr>
<td>08:50</td>
<td>Discussion</td>
<td></td>
</tr>
</tbody>
</table>

**Capsule** Stimulation remains a basic step in IVF, can we do better?

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00-09:30</td>
<td>Debate: Stimulation: We should not use more than 150 units in most patients</td>
<td></td>
</tr>
<tr>
<td>09:00</td>
<td>Con: Norbert Gleicher, USA</td>
<td></td>
</tr>
<tr>
<td>09:10</td>
<td>Pro: Frank Broekmans, Netherlands</td>
<td></td>
</tr>
<tr>
<td>09:20</td>
<td>Discussion</td>
<td></td>
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</tbody>
</table>

**Capsule** Automation in IVF can improve the lab work and maybe decrease the cost

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30-10:00</td>
<td>Debate: Automation in IVF</td>
<td></td>
</tr>
<tr>
<td>09:30-09:40</td>
<td>Automation in embryo culture: Laura Rienzi, Italy</td>
<td></td>
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<tr>
<td>09:40-10:00</td>
<td>Automation in embryo freezing: Amir Arav, Israel</td>
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<tr>
<td>09:50</td>
<td>Discussion</td>
<td></td>
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</tbody>
</table>

### 10:00-10:20 COFFEE BREAK, EXHIBITION, AND POSTER VIEWING

### EXHIBITION AREA

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>10:20-11:50</td>
<td>FUTURE OF IVF II</td>
<td></td>
</tr>
<tr>
<td><strong>Chairpersons</strong></td>
<td>Zion Ben Rafael, Israel Frank Broekmans, Netherlands</td>
<td></td>
</tr>
<tr>
<td><strong>Capsule</strong></td>
<td>Does biology limit PGT-A’s ability to provide accurate information?</td>
<td></td>
</tr>
<tr>
<td>10:20-10:40</td>
<td>Why the PGT-A hypothesis for biological reasons, simply, cannot work</td>
<td></td>
</tr>
<tr>
<td>10:40-11:15</td>
<td>HFEA recently downgraded PGT-A from “Amber” to “Red”, suggesting it has no proof. Are we all in agreement?</td>
<td></td>
</tr>
<tr>
<td>10:40</td>
<td>Yes: Sebastiaan Mastenbroek, Netherlands</td>
<td></td>
</tr>
<tr>
<td>10:50</td>
<td>No: Tessa Homfray, UK</td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Discussion</td>
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</tbody>
</table>

**Capsule** The debate goes on, is PGT-A increase or decrease success?

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:15-11:50</td>
<td>Debate: Standard IVF vs add-on IVF – futile expense? What if the patient is willing to pay for add-ons?</td>
<td></td>
</tr>
<tr>
<td>11:15</td>
<td>Con: Joyce Harper, UK</td>
<td></td>
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<tr>
<td>11:25</td>
<td>Pro: Scott Nelson, UK</td>
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<tr>
<td>11:35</td>
<td>Discussion</td>
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</table>
### 11:50-12:10  BREAK

### 12:10-13:10  INDUSTRY SUPPORTED SESSION

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<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
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<tr>
<td>13:10-13:40</td>
<td>The new approaches with oral antagonist and new algorithm</td>
<td>HALL A</td>
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<td></td>
<td><em>Jacques Donnez, Belgium</em></td>
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</tbody>
</table>

### 13:40-14:30  LUNCH BREAK, EXHIBITION, AND POSTER VIEWING

### 14:30-16:30  SURGICAL TREATMENT

<table>
<thead>
<tr>
<th>Time</th>
<th>Capsule</th>
<th>Chairperson</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:30-14:55</td>
<td>Controversial aspects of surgical procedures associated with IVF</td>
<td><em>Joop Laven, Netherlands</em></td>
<td>HALL A</td>
</tr>
<tr>
<td>14:55-15:40</td>
<td>Update on Müllerian duct anomalies: Modern surgical approaches</td>
<td><em>Sara Brucker, Germany</em></td>
<td></td>
</tr>
<tr>
<td>14:55-15:00</td>
<td>Debate: <em>Cesarean scar defect: When to correct, by which method?</em></td>
<td></td>
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<td></td>
<td>Pro hysteroscopy: <em>Eleonora Boschetti, Germany</em></td>
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<td></td>
<td>Pro laparoscopy: <em>Olivier Donnez, Belgium</em></td>
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<tr>
<td>15:40-16:05</td>
<td>Pro: <em>Michelle Nisolle, Belgium</em></td>
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<tr>
<td>16:05-16:30</td>
<td>End of endometrial scratching?</td>
<td><em>Ben Mol, Australia</em></td>
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</tbody>
</table>

### 16:30-16:50  COFFEE BREAK, EXHIBITION, AND POSTER VIEWING

### 16:50-18:20  ISMAAR SESSION

<table>
<thead>
<tr>
<th>Time</th>
<th>Capsule</th>
<th>Chairperson</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:50-17:05</td>
<td>Almost every novelty in IVF is met with skepticism</td>
<td><em>Geeta Nargund, UK</em></td>
<td>HALL A</td>
</tr>
<tr>
<td>17:05-17:20</td>
<td>The microbiome - does it really matter to ART?</td>
<td><em>Joop Laven, Netherlands</em></td>
<td></td>
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<tr>
<td>17:20-17:50</td>
<td>Debate: <em>Duo-stim advantages and disadvantages</em></td>
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<td>Pro: <em>Alberto Vaiarelli, Italy</em></td>
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<td></td>
<td>Con: <em>Bart Fauser, Netherlands</em></td>
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<tr>
<td></td>
<td>Discussion</td>
<td></td>
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</tr>
<tr>
<td>17:50-18:20</td>
<td>Debate: <em>Freeze only strategy for all?</em></td>
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<tr>
<td></td>
<td>Con: <em>Ben Mol, Australia</em></td>
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<tr>
<td></td>
<td>Pro: <em>Human Fatemi, United Arab Emirates</em></td>
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<tr>
<td></td>
<td>Discussion</td>
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</table>
INFERTILITY/ART/IVF

SATURDAY, DECEMBER 4

<table>
<thead>
<tr>
<th>08:30-10:00</th>
<th>PCOS</th>
<th>HALL A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capsule</td>
<td>The definition of PCO/PCOS has changed several times during the last 4 decades. Should we change it again? Despite our better understanding, the treatment remains a challenge</td>
<td></td>
</tr>
</tbody>
</table>
| Chairpersons| Bart Fauser, Netherlands  
Ben Mol, Australia |
| 08:30-08:55 | PCOS: A brain disease?  
Joop Laven, Netherlands |
| 08:55-09:20 | Defining the polycystic ovary: AMH or ultrasound?  
Antonio La Marca, Italy |
| 09:20-09:40 | Does Cochrane reviews show any role for metformin in the management of PCOS?  
Thomas Tang, UK |
| 09:40-10:00 | The hypo-androgenic PCOS-like phenotype at advanced ages, one of the most frequent causes of repeat IVF failure  
Norbert Gleicher, USA |

10:00-10:20  COFFEE BREAK, EXHIBITION, AND POSTER VIEWING

10:20-11:50  CONTROVERSIAL ASPECTS ROUND ADD-ONS TO IVF, LABORATORIES AND CLINICAL PROCEDURES

| Chairpersons | Laura Rienzi, Italy  
Zion Ben Rafael, Israel  
Bart Fauser, Netherlands |
| Discussants  | Catherine Racowsky, France  
Norbert Gleicher, USA  
Antonio La Marca, Italy  
Joop Laven, Netherlands  
Verena Nordhoff, Germany |
| Lab procedures | • Perfect timings in the embryology lab: When to denude, when to fertilize, when to culture?  
• One or several culture media - which?  
• Noninvasive embryo selection  
• Genetic testing for donors |
| Clinical procedures | • RIF - is there a valid definition?  
• Fresh versus frozen: What to prepare?  
• Optimal luteal support?  
• Aromatase inhibitors - when to use? |
### 11:50-12:00   BREAK

#### 12:00-13:30   ENDOMETRIOSIS ADENOMYOSIS   HALL A

**Capsule**
The concept that uterine adenomyosis and pelvic endometriosis as well as endometriotic lesions at distant sites of the body share a common pathophysiology with endometriosis was promoted almost a decade ago. What is the current thinking?

**Chairpersons**
Zion Ben Rafael, *Israel*
Olivier Donnez, *Belgium*

- **12:00-12:20** Adenomyosis and deep endometriosis: Two linked diseases?  
  *Jacques Donnez, Belgium*

- **12:20-12:40** Uterine adenomyosis: Can surgery help? 
  *Leila Adamyan, Russia*

- **12:40-13:10**  
  - **12:40** Debate: The endometrioma and the ovarian reserve: The challenge of the surgeon  
    - To operate first: *Jacques Donnez, Belgium*
  - **12:50** ART before operation: *Edgardo Somigliana, Italy*
  - **13:00** Discussion

- **13:10-13:30** Medical targets in endometriosis  
  *Ludwig Kiesel, Germany*

### 13:30-14:20   LUNCH BREAK, EXHIBITION, AND POSTER VIEWING   EXHIBITION AREA

#### 14:20-15:50   HORMONAL AND MORAL ASPECTS OF HUMAN FERTILITY   HALL A

**Chairperson**
Edgardo Somigliana, *Italy*

- **14:20-14:40** The luteal phase in ART: Are we gaining ground?  
  *Ben Mol, Australia*

- **14:40-15:05** Women’s biological clock, the molecular mechanisms  
  *Jennifer Gruhn, Denmark*

- **15:05-15:25** 40 years of experience with the German IVF registry  
  *Klaus Bühler, Germany*

- **15:25-15:50** Does social egg freezing increase women’s emancipation?  
  *Guido Pennings, Belgium*

### 15:50-16:00   COFFEE BREAK, EXHIBITION, AND POSTER VIEWING   EXHIBITION AREA

#### 16:00-17:00   PREGNANCY LOSS   HALL A

**Capsule**
Can we prevent pregnancy loss?

**Chairperson**
Matthias Korell, *Germany*

- **16:00-16:20** Prevention of pregnancy loss  
  *Paul Piette, Belgium*

- **16:20-16:40** Recurrent pregnancy loss (RPL) - what are the solutions?  
  *Bettina Toth, Austria*

- **16:40-17:00** Fertility surgery, myoma  
  *Matthias Korell, Germany*
GYNECOLOGY

FRIDAY, DECEMBER 3

08:30-10:00 HRT AND CANCER | HALL B

<table>
<thead>
<tr>
<th>Capsule</th>
<th>Demystification of the relationship between HRT and cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairpersons</td>
<td>Santiago Palacios, Spain  Sven O. Skouby, Denmark</td>
</tr>
<tr>
<td>08:30-09:00</td>
<td>Can HRT and treatment for menopause be individualized to reduce the incidence of breast cancer?  Mark Brincat, Malta</td>
</tr>
<tr>
<td>09:00-09:30</td>
<td>Breast cancer in special populations  Herjan Coelingh Bennink, Netherlands</td>
</tr>
<tr>
<td>09:30-10:00</td>
<td>HRT in cancer survivors  Pierluigi Benedetti Panici, Italy</td>
</tr>
</tbody>
</table>

10:00-10:20 COFFEE BREAK, EXHIBITION, AND POSTER VIEWING | EXHIBITION AREA

10:20-11:50 INDUSTRY SUPPORTED SESSION | HALL B

See page 86

11:50-12:10 BREAK

12:10-13:40 VULVAR AND VAGINA | HALL B

<table>
<thead>
<tr>
<th>Capsule</th>
<th>Longevity accentuates the need for better strategies for vulvar and vaginal atrophy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairpersons</td>
<td>Nick Panay, UK  Sven O. Skouby, Denmark</td>
</tr>
<tr>
<td>12:10-12:30</td>
<td>Advances in anatomy and physiology of the vagina based on new treatments  Santiago Palacios, Spain</td>
</tr>
<tr>
<td>12:30-12:50</td>
<td>Vulvar pains and co-morbidities: Data from 1183 cases  Alessandra Graziottin, Italy</td>
</tr>
<tr>
<td>Capsule</td>
<td>Postmenopausal atrophy of the lower genital and urinary tract is distressing and requires new ideas to control symptoms</td>
</tr>
<tr>
<td>13:20-13:40</td>
<td>Translational medicine in reproductive ageing  Sven O. Skouby, Denmark</td>
</tr>
</tbody>
</table>

13:40-14:30 LUNCH BREAK, EXHIBITION, AND POSTER VIEWING | EXHIBITION AREA
### 14:30-16:30 PRESCRIBING HRT

**Capsule** Balancing the benefits/risks of HRT will allow larger populations to enjoy HRT

**Chairpersons**
- Mark Brincat, Malta
- Alessandra Graziottin, Italy

**Capsule** The controversy surrounding androgen addition to HRT is ongoing

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:30-15:00</td>
<td>Should androgens be routinely offered to optimize quality of life in menopause?</td>
</tr>
<tr>
<td></td>
<td>Alessandra Graziottin, Italy</td>
</tr>
<tr>
<td>15:00-15:30</td>
<td>Update on practical prescribing of new hormone therapy regimens</td>
</tr>
<tr>
<td></td>
<td>Nick Panay, UK</td>
</tr>
<tr>
<td>15:30-16:00</td>
<td>New strategies in the prevention of fragility fractures</td>
</tr>
<tr>
<td></td>
<td>Santiago Palacios, Spain</td>
</tr>
<tr>
<td>16:00-16:30</td>
<td>Use of HRT for cardiovascular prevention</td>
</tr>
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<td></td>
<td>Johannes Ott, Austria</td>
</tr>
</tbody>
</table>

### 16:30-16:50 COFFEE BREAK, EXHIBITION, AND POSTER VIEWING

### 16:50-18:20 GLOBAL HEALTH INITIATIVES IN GYNECOLOGICAL MALIGNANCIES

**Capsule** In 90 minutes around the world

**Chairpersons**
- Sara Nasser, Germany
- Jalid Sehouli, Germany

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:50-16:55</td>
<td>Greetings and Introduction</td>
</tr>
<tr>
<td>16:55-17:05</td>
<td>A wake-up call: Gynecological oncology on the global health agenda</td>
</tr>
<tr>
<td></td>
<td>Andreas Ullrich, Switzerland</td>
</tr>
<tr>
<td>17:05-17:15</td>
<td>20 years of gynecological capacity building in Cameroon through partnership</td>
</tr>
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<td></td>
<td>Patrick Petignant, Switzerland</td>
</tr>
<tr>
<td>17:15-17:20</td>
<td>Q &amp; A</td>
</tr>
<tr>
<td>17:20-17:30</td>
<td>Digital health as a driver for global women’s health: The iSTARC and PARSGO vision</td>
</tr>
<tr>
<td></td>
<td>Sara Nasser, Germany</td>
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<tr>
<td>17:30-17:40</td>
<td>Patient advocacy groups in the MENA region</td>
</tr>
<tr>
<td></td>
<td>Joelle Abou Khalil, Lebanon-Sweden</td>
</tr>
<tr>
<td>17:40-17:50</td>
<td>Q &amp; A</td>
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<tr>
<td>17:50-18:00</td>
<td>Towards a global women’s health taskforce</td>
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<td></td>
<td>Jalid Sehouli, Germany</td>
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<tr>
<td>18:00-18:20</td>
<td>Panel Discussion:</td>
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<tr>
<td></td>
<td>Namory Keita, Guinea</td>
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<td>Basel Refky, Egypt</td>
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<td>Hind ElMalik, Qatar</td>
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</table>
GYNECOLOGY

SATURDAY, DECEMBER 4

<table>
<thead>
<tr>
<th>08:30-10:00</th>
<th>ENDOMETRIAL CANCER</th>
<th>HALL B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capsule</td>
<td>News, options and current barriers in the management of endometrial cancer</td>
<td></td>
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<tr>
<td>Chairpersons</td>
<td>Robert Armbrust, Germany</td>
<td>Jalid Sehouli, Germany</td>
</tr>
<tr>
<td>08:30-09:00</td>
<td>Clinical implications of molecular diagnostics in endometrial cancer</td>
<td>Elena Braicu, Germany</td>
</tr>
<tr>
<td>09:00-09:30</td>
<td>Personalized surgical approach in endometrial cancer</td>
<td>Robert Armbrust, Germany</td>
</tr>
<tr>
<td>09:30-10:00</td>
<td>New options in medical therapy of advanced and relapsed endometrial cancer</td>
<td>Jalid Sehouli, Germany</td>
</tr>
</tbody>
</table>

10:00-10:20 COFFEE BREAK, EXHIBITION, AND POSTER VIEWING

EXHIBITION AREA

<table>
<thead>
<tr>
<th>10:20-11:50</th>
<th>WOMEN'S HEALTH AND WEALTH A PREIS SCHOOL ACADEMY SESSION</th>
<th>HALL B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairpersons</td>
<td>Gian Carlo Di Renzo, Italy</td>
<td>Nick Panay, UK</td>
</tr>
<tr>
<td>10:20-10:25</td>
<td>Welcome</td>
<td>Gian Carlo Di Renzo, Italy</td>
</tr>
<tr>
<td>10:25-10:35</td>
<td>The Welfare of Women (WoW) global health program endorsed by FIGO</td>
<td>Gian Carlo Di Renzo, Italy</td>
</tr>
<tr>
<td>10:35-10:50</td>
<td>Will body-identical MHT become the first choice for menopausal hormone therapy?</td>
<td>Vanadin Seifert-Klauss, Germany</td>
</tr>
<tr>
<td>10:50-11:05</td>
<td>Testosterone or not testosterone in menopause: That’s the question!</td>
<td>Nick Panay, UK</td>
</tr>
<tr>
<td>11:05-11:20</td>
<td>Which progestogen to optimize breast and endometrial safety in MHT?</td>
<td>Ewald Boschitsch, Austria</td>
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<tr>
<td>11:20-11:50</td>
<td>Q &amp; A</td>
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</tr>
</tbody>
</table>

11:50-12:00 BREAK
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Chairpersons</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00-13:30</td>
<td>IN SEARCH OF NEW PERSPECTIVES: POI MAINLY DRIVEN BY GENETICS</td>
<td>Bart Fauser, Netherlands / Nick Panay, UK</td>
<td>HALL B</td>
</tr>
<tr>
<td></td>
<td>Capsule</td>
<td>Can better understanding lead to better solutions?</td>
<td></td>
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<tr>
<td>12:00-12:25</td>
<td>Is the ovary the mirror of longevity?</td>
<td>Micheline Misrahi, France</td>
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<tr>
<td>12:25-12:45</td>
<td>Genetic architecture of reproductive ageing</td>
<td>Felix Day, UK</td>
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<tr>
<td>12:45-13:05</td>
<td>FMR1 and the genetic control of folliculogenesis</td>
<td>Julia Rehnitz, Germany</td>
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<tr>
<td>13:05-13:30</td>
<td>Endo-ERN and POI</td>
<td>Luca Persani, Italy</td>
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</tbody>
</table>

**13:30-14:20** LUNCH BREAK, EXHIBITION, AND POSTER VIEWING

**14:20-15:50** SLS: THE SOCIETY OF LAPAROENDOSCOPIC SURGEONS

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Chairpersons</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:20-14:50</td>
<td>Surgical management of endometriosis depends on thorough understanding of the pathophysiology and anatomy</td>
<td>Jessica Ybanez Morano, USA / Mona Orady, USA</td>
<td></td>
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<tr>
<td>14:50-15:20</td>
<td>Pearls in endometrioma management</td>
<td>Mona Orady, USA</td>
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<tr>
<td>15:20-15:50</td>
<td>Robotics: A systematic approach to deep infiltrative endometriosis</td>
<td>Thiers Soares Raymundo, Brazil</td>
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</tr>
</tbody>
</table>

**15:50-16:00** COFFEE BREAK, EXHIBITION, AND POSTER VIEWING

**16:00-17:00** INDUSTRY SUPPORTED SESSION

See page 87
# FETOMATERNAL MEDICINE

## FRIDAY, DECEMBER 3

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Hall</th>
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<tbody>
<tr>
<td>08:30-10:00</td>
<td>COVID 19 CAPSULE</td>
<td>Hall C</td>
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<tr>
<td></td>
<td><strong>In the midst of this incredible pandemic, can we already draw initial conclusions?</strong></td>
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<td><strong>Chairpersons</strong></td>
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<td></td>
<td>Gian Carlo Di Renzo, Italy</td>
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<td></td>
<td>Micheline Misrahi, France</td>
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<tr>
<td>08:30-08:45</td>
<td><strong>Collateral damage of the COVID pandemic on pregnancy</strong></td>
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<td>Asma Khalili, UK</td>
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<tr>
<td>08:45-09:05</td>
<td><strong>Vertical SARS-COV2 transmission support fetal/newborn resistance to infection</strong></td>
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<td>Eytan R. Barnea, USA</td>
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<tr>
<td>09:05-09:20</td>
<td><strong>Effect of lockdown on premature birth</strong></td>
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<td>Ben Mol, Australia</td>
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<td>09:20-09:40</td>
<td><strong>Effect of COVID 19 on male fertility</strong></td>
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<td>Christopher Barratt, UK</td>
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<tr>
<td>09:40-10:00</td>
<td><strong>Update on COVID-19 vaccination</strong></td>
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<td>Leif-Erik Sander, German</td>
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<tr>
<td>10:00-10:20</td>
<td><strong>COFFEE BREAK, EXHIBITION, AND POSTER VIEWING</strong></td>
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<td>10:20-11:50</td>
<td>PRENATAL DIAGNOSIS</td>
<td>Hall C</td>
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<td></td>
<td><strong>Non-invasive and invasive prenatal diagnosis for all or by indication?</strong></td>
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<td><strong>Chairpersons</strong></td>
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<td>Yariv Yoge, Israel</td>
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<td>Wolfgang Holzgreve, Germany</td>
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<td>10:20-11:20</td>
<td><strong>cfDNA diagnostic or screening?</strong></td>
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<td>10:20-10:40</td>
<td><strong>NIPD diagnostic indications: Lyn Chitty, UK</strong></td>
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<td><strong>Screening for aneuploidies and common genetic aberrations: Caterina Bilardo, Netherlands</strong></td>
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<tr>
<td>11:20-11:50</td>
<td><strong>Non-invasive prenatal testing (NIPT) - ethical and legal issues, proper counseling is the key</strong></td>
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<td>Wolfgang Holzgreve, Germany</td>
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<tr>
<td>11:50-12:10</td>
<td><strong>SHORT BREAK</strong></td>
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<tr>
<td>12:10-13:40</td>
<td>GESTATIONAL DIABETES MELLITUS (GDM)</td>
<td>Hall C</td>
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<tr>
<td></td>
<td><strong>The clinical definition and management of this common complication of pregnancy, remain controversial</strong></td>
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<td><strong>Chairperson</strong></td>
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<td>Gerard Visser, Netherlands</td>
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<tr>
<td>12:10-12:25</td>
<td><strong>How to define well glycemic control?</strong></td>
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<td>Yariv Yoge, Israel</td>
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<td>12:25-12:55</td>
<td><strong>Debate: Induction of labor for women with diabetes for all women at 38 weeks?</strong></td>
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<td>12:25-12:45</td>
<td><strong>Yes: Yariv Yoge, Israel</strong></td>
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<td><strong>No: Ute Schäfer-Graf, Germany</strong></td>
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<tr>
<td>12:55-13:10</td>
<td><strong>What is the best pharmacological therapy for GDM? (metformin\glyburide\insulin?)</strong></td>
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<td>Gerard Visser, Netherlands</td>
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</tbody>
</table>
13:10-13:40 Debate: Should obese women be advised to lose weight in pregnancy?
Yes: Yariv Yogeved, Israel
No: Alexander Weichert, Germany
Discussion

13:40-14:30 LUNCH BREAK, EXHIBITION, AND POSTER VIEWING

14:30-16:30 ROUND TABLE DISCUSSION ON PRETERM LABOUR

Capule Audience expert discussion of burning issues in perinatology
Chairpersons Wolfgang Henrich, Germany
Yariv Yogeved, Israel
Discussants Diogo Ayres-de-Campos, Portugal
Ute Schäfer-Graf, Germany
Gerard Visser, Netherlands

1. First trimester embryosography before or after NIPT?
2. Detailed second trimester expert screening for everybody?
3. Induction of labor at 39 completed weeks for every pregnant woman?
4. How to induce women after previous C-section?
5. When and how to deliver twins?
6. Cervical length without or combined with biomarkers to predict prematurity
7. Is hospitalization necessary after preterm rupture of membrane?
8. How to use or combine progesterone, pessary and cerclage in the prevention of PTB?
9. How to manage adnexal masses in pregnancy?
10. What is the best technique to close the uterotomy during C-section?

16:30-16:50 COFFEE BREAK, EXHIBITION, AND POSTER VIEWING

16:50-18:20 PERINATAL CHALLENGES

Capule Hot controversies in perinatology
Chairpersons Wolfgang Henrich, Germany
Diogo Ayres-de-Campos, Portugal

16:50-17:05 The effect of antibiotics and environmental toxicants on placenta function and fetal growth
Gian Carlo Di Renzo, Italy

17:05-17:20 Is there a metabolic syndrome in pregnancy?
Yariv Yogeved, Israel

17:20-17:35 Screening of HPV: Options and limits
Andreas Kaufmann, Germany

17:35-17:50 The role of secondary prevention in CMV - Valaciclovir, hyperimmune immunoglobulins
Max Hackelöer, Germany

17:50-18:05 Fetal-neonatal Rh disease eradication is still far to be completed in the world
Gian Carlo Di Renzo, Italy

18:05-18:20 Discussion
FETOMATERNAL MEDICINE

SATURDAY, DECEMBER 4

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30-10:00</td>
<td>ULTRASOUND IN PREGNANCY</td>
<td>HALL C</td>
</tr>
<tr>
<td>Capsule</td>
<td>High resolution ultrasound has become the leading tool in gestation and postpartum care. What are the limits?</td>
<td></td>
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<tr>
<td>Chairpersons</td>
<td>Wolfgang Henrich, Germany</td>
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<td></td>
<td>Larry Hinkson, Germany</td>
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<tr>
<td>08:30-08:55</td>
<td>1st trimester ultrasound screening</td>
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<td></td>
<td>Rabih Chaoui, Germany</td>
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<tr>
<td>08:55-09:15</td>
<td>2nd trimester ultrasound screening</td>
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<tr>
<td></td>
<td>Stuart Campbell, UK</td>
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<tr>
<td>09:15-09:35</td>
<td>Ultrasound in the delivery room</td>
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<td>Tullio Ghi, Italy</td>
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<tr>
<td>09:35-10:00</td>
<td>Ultrasound in the postpartum period</td>
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<td>Wolfgang Henrich, Germany</td>
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<tr>
<td>10:00-10:20</td>
<td>COFFEE BREAK, EXHIBITION, AND POSTER VIEWING</td>
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<tr>
<td>10:20-11:50</td>
<td>PRE-ECLAMPSIA TOXEMIA (PET) AND INTRAUTERINE GROWTH RETARDATION (IUGR)</td>
<td>HALL C</td>
</tr>
<tr>
<td>Capsule</td>
<td>Can we predict and prevent pre-eclampsia toxemia (PET)?</td>
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<tr>
<td>Chairperson</td>
<td>Ute Schäfer-Graf, Germany</td>
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<tr>
<td>10:20-10:50</td>
<td>Value of preeclampsia screening: Do we need angiogenic factor?</td>
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<td>Asma Khalil, UK</td>
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<td>The impact of sFlt/PlGF ratio on the prediction and management of preeclampsia</td>
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Abstracts
RARE VERTICAL SARS-COV2 TRANSMISSION: EFFECTIVELY MEDIATED BY MATERNAL-INDUCED PROTECTION AND FETAL/NEWBORN RESISTANCE

Joelle Abou Khalil, Founder of Matealda - Lebanon-Sweden

This session will focus on patient advocacy groups in the MENA region specifically targeting gynecological cancer and address it from the perspective of patients and caregivers. We will present Matealda, a patient and caregiver community initiative in the region, as a case study and discuss the challenges being faced with but also highlight on the absence of other advocacy groups in the region because of these. They are often deeply rooted in the social and cultural status but also due to the unstable political and economic situation in the region. The lack of access to basic needs and medicine is part of the daily struggles in the MENA region. Adding to those, the lack of awareness and gathering of accurate data hinders the work of advocacy groups. Today many of these individuals and groups advocates such as Matealda are often left working alone with minimum support and with scarce resources. The individual commitment from patients, caregivers, volunteers and even doctors is what keeps them somewhat existing even if doing the minimum for the cancer patients but this doesn’t really secure their sustainability in the long run. Patient advocacy groups play a vital role in serving as catalysts for improved communication and continuous support for all parties (doctors, medical staff, patients, caregivers, decisionmakers). They contribute to stronger and more reliable collaborations thus leading to better and equal health care for patients. If these patient advocacy groups are provided with the right tools and resources, they could serve as fully operating support system which today is more desirable than ever before for all parties involved. “Cancer is just a word, not a sentence” is often shared on various patient advocate platforms and it is true that we have come a long way in the medical field. We are able today to say that in many cases, cancer does not have to be associated with a death sentence. But the word itself is still difficult to even say out loud and for many it’s considered a taboo, especially for women in the MENA region. In addition, to this we add to it the daily obstacles mentioned earlier which then results in priorities being made at the expense of these women’s health. The only solution to overcome all these challenges and pave the way for patient advocacy groups to be more efficient is to provide them with a support system in form of a common platform. This should serve them on a local and regional level and at the same time provide them with continuous support from the global community. Matealda’s vision to remain an advocate in the face of these challenges may have started off as an individual initiative but is today raising the voice of many others. As a member of Pan-Arabic Research Society for Gynecological Cancer and i-STARC, we believe in coming together as one global health community to be able to provide that sustainable support in form of common platform.

PATIENT ADVOCACY GROUPS IN THE MENA REGION

Giovanni Scambia, Department of woman and child health and public health, A Gemelli, University Hospital Foundation IRCCS, Italy
Gianni Veneto, Department of woman and child health and public health, A Gemelli, University Hospital Foundation IRCCS, Italy
Maurizio Sanguinetti, Laboratory of microbiology, A Gemelli, University Hospital Foundation IRCCS, Italy

Problem: Following maternal exposure to bacterial/viral infection fetal disease may not develop despite maternal disease severity. If the fetus/newborn is compromised it may also be independent whether an active fetal infection is present. Herein maternal-SARS-COV2 infection heterogeneity / fetal exposure/response, antibody transfer is critically analyzed. Further the positive impact of maternal vaccination is analyzed -where IgG is transmitted after 16 weeks gestation. Methods: Delineate SARS-COV2 vertical transmission (VT) continuum from conception until post-delivery. Address high maternal vulnerability, placenta/membrane infection vs minimal VT- reflecting innate fetal resilience. Results: Current evidence and the cause of limited VT are due to 1. SARS-COV2+ maternal infection or in vaccinated patients’ the implantation and pregnancy rate are not affected. 2. URI is rarely systemic, while patients with co-morbidities, diabetes, cardiac, vascular, coagulation- are promptly delivered, and/or receive antivirals/antibiotics/steroids/anticoagulants. They may also require ICU. However, the access is limited in low-medium resource countries causing significant VT-independent maternal death and IUFD. 3. Sources of VT: Mostly by hematogenous spread via virus and/or infected immune cells causing placental villitis and fetal compromise without active fetal infection. Infection is rarely transmitted through semen, amniotic fluid, or breast milk. 4. Placental ACE2 protein (virus spike receptor) expression is low at term, but placental surface is large, therefore local immunity can shield and/or facilitate VT. 5. Minimal VT rates reflect local fetal resilience despite the high ACE-2 receptors presence in lung, liver, and heart- which is counteracted by the maturing local immune system-prepared for post-natal life. 6. Even with mild maternal infection, protective anti-SARS-COV2 IgG is transmitted to the fetus, preventing VT. 7. Infected newborn frequently appears healthy however, to document infection IgM requires >4 days to develop and need to be confirmed by IgG >2 weeks-whether such an IgG does persist in the newborn is unknown. 8. PCR viral test uses nasal/rectal/ocular swab virus- but this doesn’t really secure their sustainability in the long- run. Patient advocacy groups play a vital role in serving as catalysts for improved communication and continuous support for all parties (doctors, medical staff, patients, caregivers, decisionmakers). They contribute to stronger and more reliable collaborations thus leading to better and equal health care for patients. If these patient advocacy groups are provided with the right tools and resources, they could serve as fully operating support system which today is more desirable than ever before for all parties involved. “Cancer is just a word, not a sentence” is often shared on various patient advocate platforms and it is true that we have come a long way in the medical field. We are able today to say that in many cases, cancer does not have to be associated with a death sentence. But the word itself is still difficult to even say out loud and for many it’s considered a taboo, especially for women in the MENA region. In addition, to this we add to it the daily obstacles mentioned earlier which then results in priorities being made at the expense of these women’s health. The only solution to overcome all these challenges and pave the way for patient advocacy groups to be more efficient is to provide them with a support system in form of a common platform. This should serve them on a local and regional level and at the same time provide them with continuous support from the global community. Matealda’s vision to remain an advocate in the face of these challenges may have started off as an individual initiative but is today raising the voice of many others. As a member of Pan-Arabic Research Society for Gynecological Cancer and i-STARC, we believe in coming together as one global health community to be able to provide that sustainable support in form of common platform.

RARE VERTICAL SARS-COV2 TRANSMISSION: EFFECTIVELY MEDIATED BY MATERNAL-INDUCED PROTECTION AND FETAL/NEWBORN RESISTANCE TO INFECTION

Eytan R. Barnea, Department of Biomedical Sciences, Humanitas University, Italy

Methods: Current evidence and the cause of limited VT are due to 1. SARS-COV2+ maternal infection or in vaccinated patients the implantation and pregnancy rate are not affected. 2. URI is rarely systemic, while patients with co-morbidities, diabetes, cardiac, vascular, coagulation- are promptly delivered, and/or receive antivirals/antibiotics/steroids/anticoagulants. They may also require ICU. However, the access is limited in low-medium resource countries causing significant VT-independent maternal death and IUFD. 3. Sources of VT: Mostly by hematogenous spread via virus and/or infected immune cells causing placental villitis and fetal compromise without active fetal infection. Infection is rarely transmitted through semen, amniotic fluid, or breast milk. 4. Placental ACE2 protein (virus spike receptor) expression is low at term, but placental surface is large, therefore local immunity can shield and/or facilitate VT. 5. Minimal VT rates reflect local fetal resilience despite the high ACE-2 receptors presence in lung, liver, and heart- which is counteracted by the maturing local immune system-prepared for post-natal life. 6. Even with mild maternal infection, protective anti-SARS-COV2 IgG is transmitted to the fetus, preventing VT. 7. Infected newborn frequently appears healthy however, to document infection IgM requires >4 days to develop and need to be confirmed by IgG >2 weeks-whether such an IgG does persist in the newborn is unknown. 8. PCR viral test uses nasal/rectal/ocular swab virus- but this doesn’t really secure their sustainability in the long- run. Patient advocacy groups play a vital role in serving as catalysts for improved communication and continuous support for all parties (doctors, medical staff, patients, caregivers, decisionmakers). They contribute to stronger and more reliable collaborations thus leading to better and equal health care for patients. If these patient advocacy groups are provided with the right tools and resources, they could serve as fully operating support system which today is more desirable than ever before for all parties involved. “Cancer is just a word, not a sentence” is often shared on various patient advocate platforms and it is true that we have come a long way in the medical field. We are able today to say that in many cases, cancer does not have to be associated with a death sentence. But the word itself is still difficult to even say out loud and for many it’s considered a taboo, especially for women in the MENA region. In addition, to this we add to it the daily obstacles mentioned earlier which then results in priorities being made at the expense of these women’s health. The only solution to overcome all these challenges and pave the way for patient advocacy groups to be more efficient is to provide them with a support system in form of a common platform. This should serve them on a local and regional level and at the same time provide them with continuous support from the global community. Matealda’s vision to remain an advocate in the face of these challenges may have started off as an individual initiative but is today raising the voice of many others. As a member of Pan-Arabic Research Society for Gynecological Cancer and i-STARC, we believe in coming together as one global health community to be able to provide that sustainable support in form of common platform.
IgG blood titer. Develop sensitive blood tests to determine virus titer which is imperative given long-term COVID-19 concern (cardiac, neurologic) since children can be infected, and spread the infection. Apply lessons learnt from other rare beta-corona infections (SARS-COV/ MERS) which could help given the ongoing virus mutations which increase disease severity. Overall, due to prompt/improved maternal management, maternal IgG transfer, innate fetal resilience, and expanding vaccination rates the VT rate in COV-19 is expected to remain low. Further most infected newborns are only mildly symptomatic rarely requiring ICU, or HRT) includes other steroids such as SERMS and TSECS.

In its broadest sense, Hormone Replacement Therapy (HRT) includes other steroids such as SERMS and TSECS.

WHICH PROGESTOGEN TO OPTIMIZE BREAST AND ENDOMETRIAL SAFETY IN MHT?

Ewald Boschitsch, KLIMAX Menopause and Osteoporosis Clinic, Vienna, Austria

Safety in menopause hormone therapy (MHT) has been studied extensively in the past 20 years. In particular, the type of progestogen has been suggested to have major impact on the risk for breast cancer and some impact on the risk for endometrial pathologies. In many studies significant differences were found between synthetic progestogens, also called progestins, and micronized progesterone (P₄), which is identical to the body’s natural hormone synthesized by the ovaries. In general, MHT containing P₄, which is identical to the body’s natural hormone synthesized by the ovaries, is well tolerated by the fetus, some rarer arrhythmias may lead to intrauterine cardiac failure and hydrops. A subset of affected fetuses profits from intrauterine treatment, while in others the benefit of intrauterine treatment remains questionable. However, the fact is that some rarer arrhythmias do not warrant intrauterine treatment, in contrary, it would even be harmful. Therefore, an accurate diagnosis is warranted in all cases of fetal rhythm disturbance. This lecture will give an overview on all types of fetal arrhythmia, the diagnostic pathway as well as the therapeutic options if intervention is necessary.

40 YEARS OF EXPERIENCE WITH THE GERMAN IVF REGISTRY (D-I-R)

Klaus Bühler, Munich, Germany

Former Chairman of the Deutsches IVF-Register

If, when the German IVF Registry (D-I-R) was founded in 1982 by the then 5 IVF centres, the focus was on demonstrating to a broad public that nothing immoral or unethical was taking place in the centres, the idea of quality assurance and further training was added at the latest after the fundamental reform and conversion to complete electronic data collection in 1997. The D-I-R is supported and financed by the centres themselves. A report is published annually - in English: www.kup.at/D.I.R annuals - in which all results are summarised and anonymised. However, each centre receives a "centre profile" for self-critical review of its own results, in which the individual position is shown in percentile curves for the most important parameters. By this the D-I-R also has an effect on the centres and prompts them to improve their working methods. In the case of particularly conspicuous figures, the Executive Board can lift the promised anonymity and contact the centre concerned directly. The D-I-R is not only the oldest national IVF registry in the world, but also the largest, with more than 2 million cycles recorded - 90% of the 2 million electronically collected cycles were from other rare beta-corona infections (SARS-COV2/MERS) which could help given the ongoing virus mutations which increase disease severity. Overall, due to prompt/improved maternal management, maternal IgG transfer, innate fetal resilience, and expanding vaccination rates the VT rate in COV-19 is expected to remain low. Further most infected newborns are only mildly symptomatic rarely requiring ICU, but hospitalization length is prolonged and long-term prognosis remains uncertain.

FETAL ARRYTHMIAS

Prof. Dr. Christoph Berg, Leiter Fetalchirurgie Universitätssfrauenklinik Bonn; Leiter Pränatale Medizin Universitätssfrauenklinik Köln; Leiter Pränatale Medizin Marienhospital Witten, Germany

Arrhythmias are the most common cardiac anomalies in the intrauterine period. They are classified as irregular beats, bradyarrhythmia and tachyarrhythmia. Although 90% of fetal arrhythmias are paroxysmal ectopic beats and are well tolerated by the fetus, some rarer arrhythmias may lead to intrauterine cardiac failure and hydrops. A subset of affected fetuses profits from intrauterine treatment, while in others the benefit of intrauterine treatment remains questionable. However, the fact is that some rarer arrhythmias do not warrant intrauterine treatment, in contrary, it would even be harmful. Therefore, an accurate diagnosis is warranted in all cases of fetal rhythm disturbance. This lecture will give an overview on all types of fetal arrhythmia, the diagnostic pathway as well as the therapeutic options if intervention is necessary.

SAFE CAN HRT AND TREATMENT FOR MENOPAUSE BE INDIVIDUALISED TO REDUCE THE INCIDENCE OF BREAST CANCER?

Prof Mark Brincat, UOM, QMUL, MRCS, LRCP, FRCPG, PhD(Lond), FRCPI

In its broadest sense, Hormone Replacement Therapy (HRT) includes other steroids such as SERMS and TSECS that have been developed. The major challenge has been on how to interpret data from the NIH study, the WHI whose first publication was in JAMA 2001. Since that first publication, a number of follow-up papers from that study have clarified certain issues. The Conjugated Oestrogen (E) only arm of the study had from the start shown a reduction in Breast Cancer cases compared to the Combined E+P group and to the placebo group. In an update of the study, published in 2017, with an 18 year follow-up, there was a 44% lower incidence of Breast Cancer deaths in the women on the Oestrogen only arms who had been on Conjugated Oestrogens (E) for around 7 years, since that group was allowed to proceed further until it too was stopped.

Other agents used at the time of the Menopause such as the SERM, Raloxifene 60mgs daily has also been shown in at least three major studies to reduce the incidence of oestrogen receptor cancer cases by at least 50%. The same applies for other pharmaceuticals such as Vit D and statins which are sometimes used as incidental treatment for other conditions prevalent the time of the Menopause. Ongoing, but promising studies are on Oestetrol (E4) currently being concluded and on Bazedoxifene another SERM. The HRT and Breast Cancer relationships continues to be nuanced as more light in being shed on the issue.
thawing, i.e. before the out-come is foreseeable. D-I-R is the only registry that reports a predictability rate of the data collected. This makes the data particularly valid.

**ORGANOIDS CAN BE ESTABLISHED RELIABLY FROM CRYOPRESERVED BIOPSY CATHETER-DERIVED ENDOMETRIAL TISSUE OF INFERTILE WOMEN**
Bich Ngoc Buı, Netherlands

**Problem statement:** Research into the role of the endometrium in infertility has long been hampered owing to limited tissue availability in laboratories and lack of access to clinical biopsies. Recently, organoids were developed from human endometrium. Organoids are three-dimensional in-vitro structures that recapitulate the original organ’s key biological properties and are robustly expandable, thereby offering the possibility to mimic disease- and patient-specific phenotypes. They may provide a valuable tool to perform more in-depth studies into the role of the endometrium in various unexplained reproductive disease states. The use of freshly obtained tissue limits organoid-based research to clinics with organoid laboratories nearby, and it was thus far unknown whether cryopreservation of endometrial tissue affects organoid development and characteristics. If organoid development from cryopreserved endometrial tissue is found reliable, it will allow protocols to be established using banked tissues. The aims of the study were to investigate whether organoids could be established from endometrial samples of patients with infertility and whether tissue cryopreservation allows for establishment of organoids comparable to organoids derived from freshly biopsied endometrial tissue.

**Methods:** Endometrial tissue was obtained from six infertile women through minimally invasive biopsy using a Pipelle catheter and subjected to organoid development, immediately after biopsy as well as after tissue cryopreservation. Organoid formation efficiency, morphology, expandability potential, endometrial marker expression (immunostaining and reverse transcription quantitative real-time polymerase chain reaction) and hormonal responsiveness (after oestradiol and progesterone treatment) were assessed.

**Results:** Organoids established from both fresh and frozen tissue at comparable efficiency, could be passaged long-term and showed similar morphology, i.e. cystic with a central cavity lined by a single epithelial cell layer. They also exhibited comparable expression of endometrial markers and proliferative activity (Ki67 expression). Finally, organoids from freshly biopsied and cryopreserved endometrial tissue showed similar responses to oestradiol and progesterone treatment. **Conclusion:** Organoids can be established from cryopreserved endometrial tissue of infertile women and whether tissue cryopreservation allows for establishment of organoids comparable to organoids derived from freshly biopsied endometrial tissue.

**Conclusion:** Organoids can be established reliably from cryopreserved biopsies of endometrium in infertility. The establishment of organoids from human endometrium is an important step toward understanding the molecular and cellular mechanisms underlying infertility. This work has potential to impact fertility clinics and organoid development facilitates sample collection from any fertility clinic, not just the ones near an organoid laboratory.

**ULTRASOUND SCREENING IN FIRST TRIMESTER @ 11-14 WEEKS**
R. Chaoui
Fetal Diagnosis and Human Genetics Center-
Berlin-Friedrichstrasse 147, 10117-Berlin

In the early 1990ies a new ultrasound screening policy was introduced by Kypros Nicolaides as a first trimester screening between 11-14 weeks of gestation for the measurement of the fluid behind the neck, called nuchal translucency (NT). The NT screening was completed by biochemistry values from maternal serum to achieve a risk assessment for the presence of common aneuploidies as trisomy 21, 18 and 13. In the last decade however there was an increased uptake of the new cell-free DNA screening for aneuploidy in maternal blood with a high sensitivity and specificity. With the advent of high-resolution transducers in the past two decades, the first trimester NT ultrasound examination has evolved beyond aneuploidy screening and now includes an evaluation of fetal anatomy in early gestation. International and local released guidelines reflect this development. In addition, the measurement of Doppler of the uterine arteries allows along with biochemistry values to assess the risk for preeclampsia. The presentation will focus mainly on the NT screening, the diagnosis of obvious findings in the first trimester and the role of a protocol in the systematic evaluation of the fetus to diagnose plasma markers of the CNS, the heart and other organs. First trimester screening should no longer be considered as a solely aneuploidy screening but has evolved to be a screening tool for complex anomalies between 11 and 14 weeks of gestation. However, there is no evidence yet before 11 weeks of gestation to detect severe lethal anomalies, followed by a scan at 13 weeks. This however should be followed by a second trimester screening, as some anomalies evolve and some develop between the first and second trimester.

**BIOLOGICAL SENSORS OF IN-UTERO MONITORING**
Ying Cheong
Medical Director, Complete Fertility Centre; Professor in Reproductive Medicine, University of Southampton; Complete Fertility Centre Ltd, UK

Despite advances in ART, implantation and pregnancy rates per embryo transfer still remain low. IVF laboratories strive to ensure that the process of handling gametes in vitro closely mimics the in vivo environment. The successful adoption of time-lapse incubator technology world-wide suggests that clinicians and scientists place significant emphasis on trying to maintain a stable environment for the developing embryo. However, the data on the key biophysical parameters on oxygen concentration, pH and temperature within the uterus is largely unknown, and often only evaluated in endometrial biopsies. In this talk, I will explain how we have and are currently interrogating the uterine biophysical environment. I will show data on pO2 within the female reproductive tract with cyclical variation and minute-to-minute oscillations, and suggest pathophysiological factors that may influence these parameters. Fine balanced control of pO2 and avoidance of overwhelming oxidative stress is crucial for embryogenesis and implantation. The pH in the female reproductive tract is graduated, with lowest pH in the vagina (~pH 4.42) increasing toward the Fallopian tubes (FTs) (~pH 7.94), reflecting variation in the site-specific microbiome and acid–base buffering at the tissue/cellular level. The temperature variation in humans is cyclical by day and month. In humans, it is biphasic, increasing in the luteal phase; with the caudal region of the oviduct (~2 degrees cooler than the cranial portion. Temperature variation is influenced by hormones, density of pelvic/uterine vascular beds and effectiveness of heat exchange locally, crucial for sperm motility and embryo development. The notion of ‘back to nature’ in assisted conception suggested 20 years ago has yet to be translated into clinical practice. This talk will highlight our current inability to assess the in vivo reproductive tract environment in real time and introduce future development of sensing technology in utero that may help to provide new insights into how best to optimize the in vitro embryo environment and allow for more precise and personalized fertility treatment.
SYNTHETIC HUMAN ENTITIES WITH EMBRYO-LIKE FEATURES
Susana M. Chuva de Sousa Lopes, Netherlands

Human pluripotent stem cells are being used to model different aspects of human development from induced directed differentiation to understand the formation of specific organs (in organoids), to study aspects of human gastrulation, such as axis elongation and symmetry breaking (in gastruloids) and more recently blastocyst formation (in blastoids). In particular the formation of human blastoids has sparked worldwide controversy, as these embryo-like structures, formed by donor-specific human stem cells, may acquire in culture developmental potential to form a complete organism. This developmental potential is however not possible to investigate in humans in vivo for obvious ethical reasons, but also not in vitro due to the lack of suitable models to mimic preimplantation even considering the current 14-day limit. Moreover, if human pluripotent stem cells prove to be actually totipotent (instead of pluripotent) this would have significant implications regarding the definition of "embryo". In contrast to human (natural) embryos, the generation and culture of embryo-like structures is not explicitly regulated. This field of scientific research is moving forward very fast and I will review some of the relevant scientific developments as well as touch on potential ethical and legal implications.

BREAST CANCER IN SPECIAL POPULATIONS
Herjan J.T. Coelingh Bennink, Pantarhei Oncology, The Netherlands

Problem statement: What is the incidence of breast cancer (BC) in rare but well-defined human populations with major deviations of genetic, sexual, and gender-related cancers and functions. Methods: We have searched the literature for information on the risk of BC in relation to gender, breast development, and gonadal function in the following 8 populations: 1) females with the Turner syndrome; 2) males and females with congenital hypogonadotrophic hypogonadism and the Kallmann syndrome; 3) pure gonadal dysgenesis (PGD) in genotypic females and phenotypic females and genotypic males (Swyer syndrome); 4) males with the Klinefelter syndrome (47, XXY); 5) female-to-male transgender individuals; 6) female-to-male transgender individuals; 7) genotypic males, but phenotypic females with the complete androgen insensitivity syndrome, and 8) females with Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome (müllerian agenesis). Results and Conclusions: Based on this search, we have drawn 3 major conclusions. (i) First, the presence of a Y chromosome protects against the development of BC, even when female-size breasts and female-level estrogens are present. (ii) Second, without menstrual cycles, BC hardly occurs with an incidence comparable to males. There is a strong correlation between the lifetime number of menstrual cycles and the risk of BC. In our populations the BC risk in genetic females not exposed to progesterone (P4) is very low and comparable to males. (iii) Third, BC has been reported only once in genetic females with MRKH syndrome who have normal breasts and ovulating ovaries with normal levels of estrogens and P4. Based on the results of this literature study, we hypothesize that the oncogenic glycoprotein WNT family member 4 is the link between the genetic cause of MRKH and the absence of BC women with MRKH syndrome.

FERTILITY, PREGNANCY AND PERINATAL OUTCOME AMONG PARENTS IN THE FOURTH AND FIFTH DECADE OF LIFE. PRO AND CONTRA
Christian Dadak, Med University Vienna, Austria

What means advanced age? There is no exact definition of older age. In earlier time it was 35, today perhaps 40, very old >45,>48 or>50 a. Postmenopausal >55a, “geriatric” >60a. Mean maternal age for Primipara has changed in the last 30 years from 24 to 29.5. Reasons for this development are longer education, first career, later wedding, contraception, no partner, partner does not want children, perhaps he has already children. The problems in these patients are the increase of chronic diseases and genetic problems. Patients, who prolong pregnancy to a higher age have more problems with fertility,too. The rates of success of ART decreases. Older fathers have also the risk of genetic problems (more Down Syndrome), it = impact of older age of fathers on pregnancy is discussed varying in literature. The positive effect of older parents is that children are more often born in a perfectly prepared world.

GENETIC ARCHITECTURE OF REPRODUCTIVE AGEING
Felix Day, UK

Reproductive longevity is critical for fertility and plays an important role in the healthy ageing of women. With timing of menopause likely to become of greater importance as larger numbers opt to delay parenthood. Large-scale genetic studies have successfully identified genetic loci with a range of phenotypes in humans and can provide evidence of important biological processes and insights relevant to human health at the population level. The size of these genome-wide studies has been increasing in recent years, and there has been a commensurate increase in the number of loci identified. In total 290 genetic loci have been robustly associated with ovarian ageing, assessed using normal variation in age at natural menopause; and 389 independent signals have been found for age at menarche. These variants explain ~10, 1% and ~7.4% of the variation in these traits respectively. As well as being robustly associated with normal variation in age at menopause, the common alleles, in aggregate, were also associated with incidence of clinical extremes. The genome-wide approach can also help to identify biological processes that underly reproductive aging. In particular, loci associated with menopause implicate a broad range of DNA damage response processes and include loss-of-function variants in key genes involved in these pathways. The importance of damage response was also demonstrated by the association of a common coding variant in BRCA1, the first time that variation at this gene had been associated with any complex trait in these sorts of studies. It has been possible to demonstrate some of these processes in mouse models, highlighting the hypothesis generating nature of these large-scale genetic studies. The work on menarche has reinforced the idea of the importance of neurological control of puberty timing, as well as the existence of a substantial overlap between the genetics involved in adolosity and the start of the reproductive lifespan. Large-scale genetic studies such as these can also provide the basis of causal inference analyses, using Mendelian randomisation methods. These approaches have indicated that extending the reproductive lifespan in women would improve bone health and metabolic health, but might also be associated with increases in the risk of hormone-sensitive cancers. This last association is thought to be driven by pathways separate from those related to DNA damage response. When using Mendelian randomisation to consider associations with age at menarche, it is important to account for the substantial overlap of the signals between puberty timing and body mass index. In models that do account for this, it has been shown that changes in puberty timing are associated with breast and endometrial cancers in women and prostate cancer in men. These findings provide insight into the mechanisms that govern reproductive ageing, how they might be targeted by therapeutic approaches to extend
Obese mothers are an important problem in obstetrics globally. Advanced maternal age and BMI complicate pregnancy, gestational diabetes and delivery. It must pointed out that the consequences do not end with delivery, but represent a lifelong burden to the mother and the child. Therefore strategies to reduce the BMI of obese women are mandatory, the prevention of complication in pregnancy is important, anteconceptional strategies like physical activities and nutrition adjustment are options to avoid obese pregnant women and the complication.

SHOULD OBSESE WOMEN BE ADVISED TO LOSE WEIGHT IN PREGNANCY? NO.
Joachim W. Dudenhausen, Germany

Obese women are an important problem in obstetrics globally. Advanced maternal age and BMI complicate pregnancy, gestational diabetes and delivery. It must pointed out that the consequences do not end with delivery, but represent a lifelong burden to the mother and the child. Therefore strategies to reduce the BMI of obese women are mandatory, the prevention of complication in pregnancy is important, anteconceptional strategies like physical activities and nutrition adjustment are options to avoid obese pregnant women and the complication.

FREEZE ALL IN ART: TO BE OR NOT TO BE?
Human M. Fatemi, MD, PhD, ART Fertility Clinics, UAE, Muscat, India

In recent years the number of frozen-thawed embryo transfer (FET) cycles has performed significantly increased, facilitated by improved laboratory techniques and the increased use of PGT-A in ART. High impact factor published papers on that topic failed to demonstrate any benefit of frozen embryo transfer as compared to fresh embryo transfer. Unfortunately, most, if not all of those studies, do have significant faults, neglecting completely the basic Physiology and the so-called window of implantation. It is well accepted that endometrial morphology changes under the influence of ovarian sex steroids during the menstrual cycle. Endometrial receptivity is driven by the secretory transformation of the endometrium under the influence of progesterone after preceding estrogen exposure. As far back as 1937 the effects of progesterone and estrogen on the endometrium was assessed. Rock and Bartlett reported that it may be possible to determine both the duration of progesterone secretion and the estrogen-progesterone balance from the presence or absence of sequential changes in the endometrium. Subsequently in 1949 a paper was published identifying endometrial histology as the most accurate method of diagnosing corpus luteal insufficiency and established the criterion of a lag in endometrial histology of 2 or more days between expected and observed findings in at least two cycles. In 1950 Noyes et al., documented the daily histological changes occurring under the influence of progesterone and concluded that endometrial dating gives an estimate of quantitative progesterone effect which reflected both duration and amount of progesterone secretion. The histological changes described by Noyes et al in 1950s, has been revalidated recent gene expression studies. Hence, ALL stimulated cycles do have an endometrial advancement, due to progesterone rise within 1 hour post final oocyte maturation. This is leading to endometrial advancement and an asynchrony between endometrium and the developing embryo. The Synchrony of the endometrium and the embryo developmental stage is crucial for a correct implantation. As endometrial receptivity is closely correlated to the hours of progesterone exposure following sufficient exposure to estrogen, timing of the embryo transfer is the key step towards a successful outcome in addition to embryo euploidy and embryo quality. Shapiro et al clearly demonstrated that the implantation rate in fresh cycles is directly related to the embryo division pattern and length of progesterone exposure, however, this is not true in frozen cycles. This clearly demonstrated that the fresh cycles are reducing the chance for many embryos to implant by reducing the window of implantation, due to longer exposure of progesterone. Prior conducting a study to compare fresh versus frozen cycles in ART, one has to understand and respect the above-mentioned basic knowledge on physiology. Unfortunately, there is a lack of correctly conducted RCTs to answer the question on what cycle regimen is the best regimen for a frozen embryo transfer and as long as this question in not fully and correctly answered, one can impossible compare a fresh with a frozen cycle and publish misleading meta-analysis on the topic. Future correctly conducted RCTs are urgently needed to answer this important question.

DUO-STIM ADVANTAGES AND DISADVANTAGES: CON
Bart Fauser, MD, PhD, FRCOG, Prof.Em. of Reproductive Medicine, University of Utrecht, The Netherlands

The approach of duo-stim essentially refers to ovarian stimulation for IVF in the luteal phase next to follicular phase stimulation. Hence, ovarian stimulation twice during a single ‘menstrual cycle’. However, a ‘cycle’ no longer exists when ovaries are stimulated for multiple follicle development and multiple oocytes being subsequently retrieved for fertilization in vitro. Ovarian physiology teaches us that follicles are ready to be stimulated to ongoing and gonadotropin dependent growth any time during the menstrual cycle. Early follicle development is a continues process which takes place independent from support by gonadotropins. Only at a later early antral stage of development, follicles will continue its development when FSH serum concentration surpass a certain threshold (also referred a secondary recruitment). Indeed, various clinical studies have shown that the concept works. The advantages of stimulating follicle development with continued (or duo or tri, if you wish) stimulation are clear. In case of the need to undergo gonadotoxic treatments it is wise to harvest multiple oocytes as soon as possible allowing for optimal fertility potential at a later stage. However, the optimal way to achieve this goal in terms of stimulation protocols have not been carefully studied.

ULTRASOUND IN THE DELIVERY ROOM
Tullio Ghi, Italy

The assessment and management of a woman in labor is traditionally based upon clinical examination. The diagnosis of labor arrest and the timing of interventions rely on the digital evaluation of cervical dilatation and effacement, fetal head station and position. However, clinical examinations of station and position are inaccurate and subjective, especially when a caput succedaneum impairs palpation of the sutures and fontanels. The ultrasound of ultrasound has been proposed as an aid in the management of labor. Several studies have demonstrated that ultrasonic examinations are more accurate and reproducible than clinical examinations in the diagnosis of fetal head position and station and in the prediction of labor arrest. Ultrasound examination in labor can to some extent, predict which laboring women in the second stage are destined for spontaneous vaginal delivery or operative delivery. Finally, there is growing evidence that US in labor may predict the outcome of instrumental vaginal delivery. Ultrasound in labor can be done transabdominally, mainly for head position and spine position or transperineally (TP) for assessment of head station and position at low stations. Several quantitative sonographic parameters have been proposed to assess head station. Recently the guidelines on the appropriate use of labor ultrasound have been published by the International Society of Ultrasound in Obstetrics and Gynecology. In this document it is recommended when ultrasound should be performed in labor. Advanced examination should be obtained and how the sonographic findings should be integrated in the clinical practice in order to improve the management of the patient.
DEBATE: STIMULATION: WE SHOULD NOT USE MORE THAN 150 UNITS IN MOST PATIENTS - CON
Norbert Gleicher, USA

The concept of mild stimulation can be viewed as one among many so-called “add-ons” to IVF, responsible for declining pregnancy and live birth rates all over the world. We in this debate will argue that mild ovarian stimulation for everybody has no evidentiary basis but, even more importantly, has no basic logical basis in biology.

WHY THE PGT-A HYPOTHESIS FOR BIOLOGICAL REASONS, SIMPLY, CANNOT WORK
Norbert Gleicher, USA

PGT-A, before given the acronym PGS, involves embryo biopsy prior to transfer under the original hypothesis that elimination of aneuploid embryos prior to transfer will improve implantation, pregnancy and live birth rates of remaining embryos and reduce miscarriage rates. We will here demonstrate why the hypothesis because of basic biological observations affecting preimplantation-stage embryos simply cannot work.

THE HYPO-ANDROGENIC PCOS-LIKE PHENOTYPE AT ADVANCED AGES, ONE OF THE MOST FREQUENT CAUSES OF REPEAT IVF FAILURE
Norbert Gleicher, USA

As a “syndrome.” PCOS is an amalgam of 4 s-called phenotypes (A, B C and D), all but D under Rotterdam criteria considered hyper-androgenic. We here will propose that phenotype-D, like all other phenotypes at young ages (<25years) is hyperandrogenic, then due to declines in adrenal androgen production for ca. 10 years goes through a normo-androgenic phase (the reason why this phenotype is widely seen as normo-androgenic) and, ultimately, after age 35 becomes increasingly hypo-androgenic, therefore providing the acronym hyper-hypo-androgenic PCOS (HH-PCOS). Because of this hypo-androgenism, it becomes treatment resistant, unless testosterone levels are restored. Because women with D-phenotype are lean and do not have “classical” stigmata, they often go undiagnosed.

IS PERIPARTUM CARDIOMYOPATHY AN AUTOIMMUNE DISEASE?
Norbert Gleicher, USA

We in this presentation will offer evidence for why PPCM for several convincing reasons should be considered an autoimmune disease.

CHROMOSOME ERRORS IN HUMAN EGGS SHAPE NATURAL FERTILITY
Jennifer R. Gruhn1, Agata Zielinska3,1, Vallari Shukla1, Robert Blanshard2,3, Antonio Capalbo1, Danilo Cinadomo1, Dmitry Nikiforov5,6, Andrew Chi-Ho Chan1, Louise J. Newnham7, Ivan Vogel1, Catello Scarica3, Marta Krapchev10, Deborah Taylor11, Stine Gry Kristensen7, Krzysztof Lukaszuk10,17,18, Claus Yding Andersen7, Melina Schuh2 and Eva R. Hoffmann1,3,†

Chromosome errors, or aneuploidy, affect an exceptionally high number of human conceptions and lead to congenital disorders or pregnancy loss. In our study, we followed chromosome segregation patterns directly in human oocytes from females spanning a majority of the reproductive age spectrum, 9 to 43 years. We found that the rate of abnormalities in oocytes follows a U-shaped curve, suggesting that aneuploidies at both young and advanced ages are female in origin. Unexpectedly, specific segregation errors showed different age-dependencies, therefore providing a quantitative explanation for the U shape. Increased aneuploidy in young girls and women (<20) was preferentially associated with whole-chromosome nondisjunction (MI NDJ) events. Whereas women of advancing age (≥33) showed centromeric or more extensive cohesion loss through premature separation of sister chromatids (PSSC) and reverse segregation (RS) events, respectively. This centromeric or more extreme cohesion weakening may be acting as a “molecular clock,” to limit pregnancies as women age by introducing specific chromosomal errors, without causing genome-wide missegregation. A second, and currently unknown, mechanism could then account for the high MI NDJ rates seen in young females. Together, these two mechanisms create a chromosome-based system that forms the U-curve of aneuploidy in oocytes, thereby shaping the distinct natural fertility curve in humans.

THE ROLE OF SECONDARY PREVENTION IN CMV-VALACICLOVIR, HYPERIMMUNE IMMUNOGLOBULINS
Max Hackelöer, Germany

Introduction: Congenital cytomegalovirus (CMV) infection is the leading cause of non-genetic deafness, mental retardation and neurological deficits in children worldwide. Congenital infection is based on primary CMV infection, reactivation of an existing infection or re-infection during pregnancy. In the case of a primary infection during pregnancy, the probability of materno-fetal transmission is about 40%. In case of reactivation/re-infection, the intrauterine transmission rate is estimated to be 0.5-1.2%. The prevalence of congenital CMV infection varies between 0.6 and 6.1% in developing countries. As there is no general CMV screening in pregnant women or newborns in Germany, precise data on prevalence in Germany are lacking. Approximately 11% of congenitally infected infants show symptoms at birth. These children have a 30 – 40% risk of long-term sequelae including sensorineural hearing loss, developmental delay, psychomotor impairment and cerebral palsy. The risk for a symptomatic neonate is highest if maternal seroconversion occurs in the first trimester. With increasing duration of pregnancy, the
transmission rate increases whereas the rate of symptomatic infants decreases. Two main treatment options are available to prevent materno-fetal transmission: Hyperimmunoglobulins (HIG) and Valaciclovir. After fetal infection, therapeutic options are limited.

Hyperimmunoglobulins (HIG): In the past, numerous studies examined the efficacy of HIG to prevent materno-fetal transmission. Several studies came to partly contradictory results. In a 2005 non-randomized study by Ngro et al., pregnant women in the HIG group received 2-7 HIG doses at 100 IU/kg bw at 4-week intervals. A significant (p = 0.02) reduction in transmission was demonstrated in the HIG group (n = 37) with six CMV-positive infants (16%) compared to the control group (n = 47) with 19 CMV-positive infants (40%). Furthermore, there were no increased pregnancy complications in the HIG group, so that the application was classified as safe. In the first prospective randomized controlled trial of HIG therapy in pregnancy conducted by Revello et al. in 2014, the results of Ngro et al. were not confirmed. Pregnant women in the HIG group received a dose of 100 IU/kg bw at 4-week intervals, analogous to the procedure of Ngro et al. In the HIG group (n = 61) 18 children (30%) and in the control group (n = 62) 27 children (44%) were infected at birth (p = 0.13). Furthermore, in contrast to Ngro et al., the HIG group tended to have a higher incidence of pregnancy complications. For example, more preterm births were recorded in the HIG group (7/48; 15%) compared to the control group (1/47; 2%). In 2021, Hughes et al. published the analysis of the second randomized placebo-controlled double-blind trial to date with 399 pregnant women from the USA. Pregnant women in the HIG group received 100 IU/kg bw of HIG intravenously every month until delivery. After the interim analysis, the study was stopped because no significant difference was detected, with transmission rates of 22.7% (46/206) in the HIG group and 19.4% (37/193) in the control group. The rate of preterm birth was comparable in both groups (12.2% vs. 8.5%). The amount of HIG administered and the time interval between administrations were similar in all studies listed above and were based on an assumed CMV IgG antibody half-life in maternal blood of about 22 days. More recent studies show a much shorter half-life of antibodies in blood of approximately 11 days. A recent study by Kagan et al. investigated the transmission rate in pregnant women with a primary CMV infection in the first trimester. In contrast to the previously described studies, the subjects in the HIG group received antibodies at fortnightly intervals at a higher dose of 200 IU/kg bw until 20 weeks' gestation. In the HIG group (n = 40), the three infants infected with CMV at birth (7.5%) were asymptomatic. In the historical comparison cohort (n = 108), 38 children (35.2%) were affected. Thus, the transmission rate of prophylaxis was significantly reduced from 35.2% to 7.5% (p = 0.001). The incidence of pregnancy complications, especially preterm births, was comparable in both groups. A retrospective data analysis of pregnant women who received HIG with the aim of prophylaxis at the Charité – Universitätsmedizin Berlin between 2010 and 2017 yielded similar results. Analogous to Kagan et al., a dose of 200 IU/kg was used at fortnightly intervals. In contrast to Kagan et al., inclusion was up to the second trimester. The first HIG treatment took place at a mean of 17 SSW. Nevertheless, a significantly lower (p=0.026) transmission rate of 22.6% was observed in the HIG group (n=46) compared to the historical cohort (n=281) with a transmission rate of 39.9%. Valaciclovir: Since data on the efficacy of HIG to prevent materno-fetal transmission are heterogenous, more recent studies investigated the efficacy of antiviral therapy. Medications such as aciclovir and valaciclovir are considered safe in pregnancy and have been commonly used to treat herpes simplex infections or pregnant with CMV-primary infection and confirmed transmission. A French study showed good placental transfer and that valaciclovir was well tolerated with rare adverse events in pregnant women. In 2020, Shahar-Nissan et al. published the results of a randomized, double-blind, placebo-controlled trial looking at 90 women with a primary infection in the first trimester or periconceptional period. The women were divided into a treatment group (n=45) receiving 8g valaciclovir every day until amniocentesis and a placebo group (n=45). Shahar-Nissan et al. were able to show a significant decrease of the transmission rate from 29% in the group without treatment to 11% in the valaciclovir group. The benefit of valaciclovir in secondary prevention was confirmed in the study of Faure-Bardon et al. who were able to show a reduction in fetal infection in the treatment group with an odds ratio of 0.318 (95% CI, 0.120–0.841; P=0.021). Conclusion: Studies on the efficacy of HIG are heterogeneous. An early start of therapy in the first trimester and a sufficiently high dose at two-week intervals seem to be decisive for the success of therapy. The current amount of data on HIG is not sufficient for a general recommendation in national and/or international guidelines. Recent studies confirmed the acceptability, tolerance and benefit of secondary prevention by valaciclovir. Key to success with this treatment regimen seems to be a well-established routine, maternal serum screening policy in the first trimester of pregnancy.

STANDARD IVF VS ADD-ON IVF – FUTILE EXPENSE? WHAT IF THE PATIENT IS WILLING TO PAY FOR ADD-ONS? Joyce Harper, EGA Institute for Women’s Health, University College London, UK

IVF add-ons are additional treatments which are not essential for an IVF/ICSI cycle but often claim to improve live birth rate (LBR). To make a claim that a treatment improves LBR, ideally there should be evidence from one or more high quality randomised controlled trials (RCT). In the UK, the Human Fertilisation and Embryology Authority (HFEA) has designed a traffic light system to rate add-ons which is presented on a patient facing web site. A red rating means there is no evidence to show that the add-on will improve LBR, amber means there is conflicting evidence and green means there is robust evidence. Currently, none of the add-ons on the HFEA web site are rated green. Add-ons have been the subject of much debate as they are frequently used, with a high financial cost to the patient. Recently the Competition and Markets Authority and the HFEA have worked together to produce recommendations on the use and advertising of add-ons in the UK. A newly formed ESHRE working group is investigating IVF add-ons.

IS VAGINAL LASER AN EFFECTIVE TREATMENT OF STRESS URINARY INCONTINENCE? Tim Hillard DM FRCOG Consultant Gynaecologist, University Hospitals Dorset, Poole, UK

Stress Urinary Incontinence is a common and debilitating problem that can affect women at all ages but is particularly common around the time of the menopause and early post-reproductive years. The underlying cause is usually weakness of the urethral sphincter mechanism and surrounding pelvic floor musculature which is often secondary to pregancy and childbirth and exacerbated by age and menopause related changes. However, there are other potential causes that need to be excluded before any treatment is commenced and accurate clinical assessment of the problem by an appropriately trained health professional is required. Conservative therapy, which includes appropriate lifestyle advice and a full course of pelvic floor physiotherapy, should always be the first line of management in women with SUI. The aim of vaginal laser therapy for SUI is to strengthen the connective tissue of the sub-urethral hammock and surrounding supporting fascia. To date there have been around 20 publications assessing
the efficacy of vaginal lasers in SUI, predominantly with the Erbium Yag. The majority are small prospective observational studies or case series with follow up of 3-6 months and only a handful have had a follow up of 12 months or more. Outcome measures are largely subjective using patient questionnaires. Overall, there appears to be a modest improvement in symptom scores for around 6-12 months with a gradual return to baseline after that unless repeated treatments are undertaken. Women with mild USI seem to do best. It would be premature to draw any conclusions about the clinical usefulness of laser for SUI from these data. Only a few of the studies have used any objective outcome measures (e.g. urodynamics or pad test) which is the recognised standard for the evaluation of other SUI interventions. It is unclear what conservative therapy most of these women have been offered prior to laser treatment. Any minimally invasive intervention for SUI should only be considered after an unsuccessful course of pelvic floor muscle training (PFMT). Thereafter randomised trials against other standard minimally invasive interventions such as bladder neck bulking agents or electrical stimulation are required to help gauge the usefulness and likely role of this modality in the management of USI. Whilst the vaginal laser generally seems well tolerated with small numbers of adverse events, it is not a procedure without some risk. It is beholden on all of us to ensure we do not start advocating widespread adoption of new techniques such as this until they have been fully evaluated both in terms of their efficacy and safety. Those performing these procedures should do so in the context of research with appropriate governance and transparency.

SOME HISTORICAL AND GENERAL CONSIDERATIONS ON NIPT- GREAT PROGRESS ACHIEVED, BUT WE HAVE TO PROCEED WITH CAUTION

Wolfgang Holzgreve, Professor of Obstetrics and Gynecology, Medical Director and CEO of the University Hospital Bonn, Germany

Ever since we have recordings in history of human thoughts and emotions there is evidence for concern of expectant parents regarding the health of their unborn child. In the past, however, the ability to find out whether the growing fetus had problems in its development was very limited. Especially in the 70s this changed with the introduction of diagnostic ultrasound which allowed to visualize the fetuses of the unborn child without harm, and around the same time biochemical marker screening approaches were developed for the prediction of new techniques on such as this until they have been fully evaluated both in terms of their efficacy and safety. Those performing these procedures should do so in the context of research with appropriate governance and transparency.

PCOS: A BRAIN DISEASE?

Joop S.E. Laven, Erasmus University Medical Center, Rotterdam, The Netherlands

Polycystic ovary syndrome (PCOS) is an endocrine condition associated with reproductive and psychiatric disorders, and with obesity. Eating disorders, such as bulimia and recurrent dieting, are also linked to PCOS. Moreover it seems that there is a profound dysregulation of the HPG axis causing the ovarian phenotype. PCOS is also highly associated with psychological distress and body dissatisfaction. Finally it also associated with eating disorders and other gastro-intestinal disorders such as irritable bowel syndrome. The hypothesis is based on events that occur during a largely neglected stage of female reproductive development e.g. the formation of the ovary and the menstrual cycle. The hypothesis is based on events that occur during a largely neglected stage of female reproductive development e.g. the formation of the ovary and the menstrual cycle.

THE MICROBIOME -DOES IT REALLY MATTER TO ART?

Joop S.E. Laven, Erasmus University Medical Center, Rotterdam, The Netherlands

The existence of an extensive microbiome in and on the human body has increasingly dominated the scientific literature during the last decade. A shift from culture-dependent to culture-independent identification of microbes has occurred since the emergence of next-generation
sequencing (NGS) techniques, whole genome shotgun and metagenomic sequencing. These sequencing analyses have revealed the presence of a rich diversity of microbes in most exposed surfaces of the human body, such as throughout the reproductive tract. For the field of reproductive medicine, determination of what is a favorable reproductive tract microbiome prior to an ART treatment might further increase success rates of these treatments.

USE OF HRT FOR CARDIOVASCULAR PREVENTION
Johannes Ott
Clinical Division of Gynecologic Endocrinology and Reproductive Medicine, Medical University of Vienna, Austria

Hormonal replacement therapy (HRT), also called menopausal hormone therapy (MHT), is indicated for relief of climacteric symptoms. However, it has also been demonstrated that women might benefit from MHT in terms of prevention of long-term consequences of estrogen-deficiency. Notably, despite the heterogeneity of published studies, a significant reduction of overall mortality has been reported, especially for women who start with long-term MHT early after menopause. This also holds true for the prevention of cardiovascular disease. Noteworthy, climacteric symptoms are associated with an increased risk of hypertension and cardiovascular disease. MHT may prevent chronic conditions like these, especially when started in symptomatic women before the age of 60 years or within 10 years of the onset of the menopause. In addition, individual patient characteristics and risk profiles of each given woman have to be considered. A review about the existing literature is provided.

TESTOSTERONE OR NOT TESTOSTERONE IN MENOPAUSE: THAT’S THE QUESTION!
Nick Panay, Consultant Gynaecologist, Queen Charlotte’s & Chelsea and Westminster Hospitals
Professor of Practice, Imperial College London

There has been much controversy over the last few years as to the precise role of endogenous androgens in women and the place of exogenous androgen replacement in women with distressing low sexual desire. What is not in dispute is that healthy young women produce approximately 100 – 400 mcg per day. This represents three to four times the amount of estrogen produced by the ovaries. Approximately half the endogenous testosterone and progesterone are derived from the ovaries and half from the adrenal glands. Testosterone contributes to sexual desire, arousal and orgasm; clearly there are other factors involved including psychosexual, physical, iatrogenic and environmental. The decline in testosterone levels which occurs throughout a woman’s lifespan, and particularly so after a surgical menopause, when the ovary production decreases by 50% within days of the surgery, has been associated with a number of distressing symptoms (not just sexual) including reduction in well-being, energy levels and mood. Additionally, there appears to be a synergistic effect muscle mass. In view of the important functions of endogenous testosterone it is surprising there has been so little research into the sequelae of deficiency (less than research into conditions of excess androgens such as PCOS). Equally surprising has been the dearth of development of products specifically targeted at female androgen replacement. In the absence of research and development in these areas it is not surprising that many women and healthcare practitioners (HCP) still perceive testosterone as an entirely male hormone and testosterone replacement within the domain of the andrologist. There is also a considerable amount of suspicion that this “male” hormone is worthy of consideration in women with an apparent deficiency state. There are even accusations that low libido states have been invented by husbands, male physicians, or pharma companies hoping to capitalize on this “pseudo condition” with expensive drugs. The testosterone over periods of six months, the preparation and the dosage right, reducing confidence in usage. Even if therapy is commenced by the specialist, primary care often refuse to continue prescribing, citing cost, lack of familiarity with the product and inexperience in usage. The two most commonly used 1% testosterone preparations in women (at 1/10th of the dose) are Testim® tubes and Testogel® sachets. AndroFeme 1® 1% testosterone cream is now licensed for female use in Australia and exported to other countries such as the UK, but only available for private purchase. Compounded bioidentical preparations are not recommended by health authorities or menopause societies. Going forward, investigators, regulators and the pharma industry must collaborate to produce viable androgenic options licensed for female usage. This will ensure that women who would truly benefit from this type of replacement are not denied an intervention that could have truly life transforming effects.

Key References

400 mcg per day. This represents 1/10th of the dose. Testim® tubes and Testogel® sachets. AndroFeme 1® 1% testosterone cream is now licensed for female use in Australia and exported to other countries such as the UK, but only available for private purchase. Compounded bioidentical preparations are not recommended by health authorities or menopause societies. Going forward, investigators, regulators and the pharma industry must collaborate to produce viable androgenic options licensed for female usage. This will ensure that women who would genuinely benefit from this type of replacement are not denied an intervention that could have truly life transforming effects.

Key References
weight gain as unfavourable glucose metabolism, fluid retention, acne, also bind to the glucocorticoid, mineralocorticoid and progesterone receptor, many progestogenic compounds contrary to the cardiovascular benefits seen in previous contributed to the adverse outcomes in WHI, which were predominantly 17 beta estradiol and progesterone or other progestogens. It is likely that these differences also estradiol and between medroxyprogesterone acetate and population. However, fundemental differences exist progestogens.1 Natural progesterone and dydrogesterone dydrogesterone may have more favourable promotion in some studies when synthetic progestogens might explain the small increase risk in breast cancer some conditions. Data show that higher oral estrogen and cessation of therapy. More concerning is the possibility prevent osteoporosis. However a large proportion of and ultra-low dose regimens have also been shown to prospective studies. Recent data support the efficacy and safety of lower doses of hormone therapy than previously. The adverse outcomes seen in The Women’s Health Initiative (WHI) combined hormone therapy trial were mainly to an over-dosage of HRT in a relatively elderly population. However, fundamental differences exist between conjugated equine estrogens and 17 beta estradiol and between medroxyprogesterone acetate and other progestogens. It is likely that these differences also contributed to the adverse outcomes in WHI, which were contrary to the cardiovascular benefits seen in previous observational trials. In addition to binding to the progesterone receptor, many progestogenic compounds also bind to the glucocorticoid, mineralocorticoid and androgen receptors. This can lead to unwanted effects such as unfavourable glucose metabolism, fluid retention, acme, weight gain. Recent studies of cardiovascular risk markers in younger women have therefore been designed using predominantly 17 beta estradiol and progesterone or dydrogesterone as primary interventions. Menopause societies are now advising that natural progesterone and dydrogesterone may have more favourable cardiometabolic and breast effects compared to synthetic progestogens.2 Natural progesterone and dydrogesterone do not attenuate the beneficial effects of estradiol in reducing insulin resistance and arterial compliance. There also appear to be differential effects of progesterone and progestogens on breast tissue. Progesterone has a neutral and dydrogesterone a pro-apopotic effect on breast epithelial cells, whereas androgenic progestogens such as medroxyprogesterone acetate appear to have a proliferative effect, possibly through non-specific effects on the glucocorticoid receptors and gene expression. This might explain the small increase risk in breast cancer promotion in some studies when synthetic progestogens are combined with estrogen. Observational data such as the French E3N cohort and the Finnish registry cohort suggest that women using natural progesterone and dydrogesterone are not at increased risk of breast cancer within the first five years of use; ideally these data will be confirmed in the future by definitive long term, randomised prospective studies. Recent data support the efficacy and safety of lower doses of hormone therapy than previously used. Trials have recently documented the efficacy of 0.5 mg 179 estradiol combined with either dydrogesterone or norethisterone in treating menopause symptoms. Low dose and ultra-low dose regimens have also been shown to prevent osteoporosis. However a large proportion of clinicians continue to initiate HRT at standard or high doses. This can lead to estrogenic and progestogenic side effects and cessation of therapy. More concerning is the possibility that women are being exposed to an unnecessary risk of some conditions. Data show that higher oral estrogen doses can result in increased risks such as venous thromboembolism and stroke. There may be a dose response effect of estrogen and progestogen for breast cancer risk though this has never been confirmed. At a time that there is concern about the role of progestogen in breast cancer genesis, it behoves us to use the minimum effective dose of progestogen for endometrial transformation. Women who have been through an early menopause or with premature ovarian insufficiency should continue to be treated with higher doses of estrogen as this is more physiological for them.2 The exceptions to low starting dose should include women with severe osteoporosis and severe psychological symptoms as these women benefit from the dose response effect of higher levels of estrogen. Women who are at risk of venous thromboembolism e.g. obese, diabetic etc should be treated with transdermal estrogen, particularly when higher doses of estrogen are required. Replication of the physiological hormonal environment with estradiol, favourable types of progestogens and progesterone and where required physiological doses of testosterone, can therefore maximise benefits and minimise side effects and risks of HRT. We must also be mindful of the importance of local hormone therapy in women with vulvovaginal atrophy symptoms. It is time we moved away from the notion, often propagated by epidemiologists and the media, that all hormone therapy products have a single class effect, and move towards a more individualised approach to hormone therapy. References

DOES SOCIAL EGG FREEZING INCREASE WOMAN’S EMANCIPATION? Guido Pennings, Belgium

There is much ambiguity about the effect of elective egg freezing (EEF) on the position of women. One line is defending EEF as liberating and increasing reproductive autonomy of women while the opposite line argues that the social context in which women’s decisions are made prevents real autonomous decision making. This social context is largely limited to the organisation of the labour market. This reasoning assumes that the reason for postponing childbirth is the incompatibility of work and family/private life. However, all studies show that the primary reason for women to consider elective egg freezing is the lack of a partner. The first question here is where this shortage comes from and how it can be remedied. The main cause of the ‘lack of partner’ issue for highly-educated women (the group most involved in elective egg freezing) is the reversed gender gap in education. The future is looking bleak for highly-educated women on the partner market as the shortage of potential partners. Reimbursement would thus lead to a larger uptake in an already privileged group and might actually further increase injustice rather than diminish it. It is concluded that EEF might increase individual reproductive autonomy for some women but does not increase reproductive freedom for the group of highly-educated women. Regardless of how many women would freeze their eggs, a large number of educated women will eventually have to choose between going it alone as a single mother or looking for another life goal. Finally, some authors have looked at the reorganisation of the labour market or at measures to enable women to have their child earlier. Little effort has been put into designing policy changes that tackle the ‘lack of partner’ issue. One measure could be to introduce special programmes to support men
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Cervical cancer morbidity and mortality in low-resource settings is a major priority of WHO which consider that the introduction of HPV vaccines has been established since 1999 in a project entitled "Promoting Comprehensive Cervical Cancer Prevention and Better Women Health in Medium and Low-Resource Settings" with the aim to develop a cervical cancer screening and prevention adapted to Cameroon. More recently (2014), a collaboration between the HUG and University of Dschang has been established. University of Dschang is one of the largest institutions of higher education in the West Cameroon which provide an excellent environment for training and research. This partnership is now a highly productive platform of research, which resulted in a large variety of academic activities. Cervical cancer prevention in low-resource setting is a major priority of WHO which consider that the introduction of new technologies may play a crucial role for reducing cervical cancer morbidity and mortality in low-resource settings. Screening program worldwide with the global strategy of WHO and the aim of the presentation will be to present an overview and perspectives of this partnership.

THE IMPACT OF SFLT/PLGF RATIO ON THE PREDICTION AND MANAGEMENT OF PREECLAMPSIA

Luisa Pinto, Portugal

The impact of the sFlt/PIGF ratio on the prediction and management of Preeclampsia (PE) is around 2.5% but it still constitutes a major cause of maternal morbidity and mortality. Its origin relies on placental dysfunction, which triggers a decrease in angiogenic and an increase in antiangiogenic regulatory factors. This imbalance is responsible for all the systemic manifestations associated with PE. In most countries the diagnosis of PE still relies on new onset hypertension (HT), associated with proteinuria or clinical or laboratory findings resulting from early organ lesion. This definition has several limitations – it does not allow for a prediction of evolution, appearance of complications or adverse outcomes and it does not differentiate PE from other diseases characterized by HT and proteinuria, which will lead to late recognition of the disease, unnecessary hospitalizations and wrong clinical approaches. The PROGNOSIS study showed that an sFlt/PIGF ratio bellow 38 has a very high negative predictive value in excluding PE in the following week (93.3%) and even in a 4-week period (94.3%). Other studies showed that the sFlt/PIGF ratio is useful for establishing an accurate diagnosis of PE at a cut-off > 85 for early onset PE and > 110 for late onset PE with specificities of 99.5% and 95.5% respectively. Although some studies have shown that different levels and different increases in the sFlt/PIGF ratio correlate with different outcomes, potentially allowing individual risk stratification, no simple or usable formulations came out of these sequential measurements and the putative predictive ability of different levels of the ratio in women with PE is still difficult to implement in clinical practice. The sFlt/PIGF ratio seems to be useful in diagnosing PE in circumstances in which HT and proteinuria are already present before prepregnancy. It is the main cause of hypertension and resistance to nitric oxide, which could be useful in the diagnosis of PE in circumstances in which HT and proteinuria are already present before prepregnancy. It is the main cause of hypertension and resistance to nitric oxide, which could be useful in the diagnosis of PE.

FMR1 AND THE GENETIC CONTROL OF FOLLICULOGENESIS

Julia Rehnitz, Germany

During folliculogenesis controlled ovarian follicular maturation is essential and mainly depending on the individual ovarian follicular pool and age. Diminished ovarian reserve (DOR) and premature ovarian insufficiency (POI) are established disorders that impact individual spontaneous pregnancy success rates and success rates during assisted reproductive techniques (ART). Women with DOR are at increased risk of poor ovarian response (POR) during ART. Numerous genes are supposed to play a role in the highly orchestrated network of follicular maturation. FMR1 (Fragile X-Mental Retardation 1, OMIM: *309550) gene is located on the X chromosome (Xq27.3). It is supposed to be one of the most prominent folliculogenes related genes, because of its high mutation frequency and its association with POI. It contains a variable CGG base triplet in its promotor region that in case of an expansion between 54 and 200 is termed as "premutation" (PM). PM alleles in women are associated in 20% with POI and therewith the most common genetic cause of it. It is also called the fragile X POI (FXPOI, OMIM # 311360). The protein FMRP is mainly localized in brain and in the granulosa cells (GCs) of ovarian follicles at different stages and can be a part of an RNA-induced silencing complex (RISC) in the cytoplasm. FMR1-FMRP allele carriers produce elevated mRNA levels, causing reduced FMRP levels due to a negative feedback loop mechanism. FMR1/FMRP expression level thus appear to be an important ovarian regulatory mechanism. In our working group we aim the elucidation of several regulatory mechanisms of FMR1/FMRP during folliculogenesis and their relation to ovarian disorders. We here present our latest results: We could demonstrate in native GCs of women with poor ovarian reserve, that those with remarkably low CGG repeat lengths also show elevated FMR1/FMRP levels. So, we assumed here for this genotype an effect on ovarian response. In addition, we discovered novel epigenetic factors, namely CpG methylation patterns in three distinct genomic regions in the FMR1 promoter region putatively involved in FMR1 transcription rate and ovarian response in human. Moreover, FMR1 expression seems to be linked with the mTOR signaling pathway, a known major regulator during early and later folliculogenesis. We found mainly mTOR and SK6 linked to FMR1. Our results were consistent in human granulosa cells in vitro and in vivo in patients with distinct ovarian
AUTOMATION IN EMBRYO CULTURE
Laura Rienzi, Italy

In the ART laboratory, automation can have different applications: 1) develop new culture systems to improve embryo culture conditions, therefore improving the efficacy of treatments; 2) develop new approaches for embryo selection, hence improving treatments efficiency; and 3) build systems able to substitute the manual work leading to an improved standardization which would limit the risk of human errors. In this view, automation in the ART laboratory involves multiple issues. It is possible to automate procedures that are usually performed manually by the embryologists. In addition to this, automation involves the introduction of decision support systems, that can help embryologists in making choices. Dealing with embryo culture, thanks to microfluidic technologies, a variety of systems have been developed with the aim of providing culture media changeover, with no need of removing the embryos from their incubators, therefore preventing them from being exposed to environmental conditions. Some of these systems even integrate oocyte insemination and embryo culture so that the whole culture is performed under controlled conditions. Other systems for embryo culture have been built to with technologies able to expose the embryos to microvibrations or gravity that would mimic the mechanical stimuli to which they are exposed in the uterine environment. On the other hand, systems were developed for helping the embryologists in selecting the right embryo for transfer or cryopreservation. In the last decade, time-lapse incubators providing videos of the developing embryos have become more and more popular in the ART laboratories. These systems have been used not only for culturing embryos without displacing them from their environment during the morphological evaluations. Additionally, they have been used as research tools: by observing and annotating morphological features and morphokinetics timings, otherwise impossible to observe in standard incubators, it is possible to point out parameters positively associated to clinical outcomes. According to these parameters, algorithms can be developed with the aim of ranking the embryos within a cohort and predicting their potential for implantation, euploidy or resulting in a live birth. Future improvements can be achieved by image and video analyses via artificial intelligence, combining morphology and morphokinetics to patient clinical features. Machine learning techniques have the potential di uncover new markers for predicting, and therefore improving, the outcome of ART treatments. Other systems capable of supporting the embryologists in embryo selection include culturing platform for the analysis of the spent culture media at a molecular level, to gain important information on embryo metabolism. Many improvements have been recently achieved although extensive research on this field is still needed before the embryo secretome analysis can be efficiently used for clinical applications. Possible future effects of automation could be to lower the costs of ART treatments thanks to a reduced need of space and human resources, equipment, disposables and volumes of culture media, while the parallelization of treatments would increase throughput. Finally, controlled data from standardized treatments would open new research applications and areas that, as a result, will bring to further developments in the field.

WILL BODY-IDENTICAL MHT BECOME THE FIRST CHOICE FOR MENOPAUSAL HORMONE THERAPY?
Vanadin Seift-Klauss, Germany

Contrary to men, who need to deal only with one life phase of hormonal turbulence – puberty – women experience a second such turbulent phase of life: perimenopause, which may begin up to 10 years prior to the cessation of menses. During early perimenopause - at the beginning of the menopausal transition – changes in cycle length (> 7 days compared with previous years) start. Late perimenopause is characterized by “skipped” periods, resulting in cycle lengths of 60 days and more. Early perimenopausal women may complain of intermittent breast tenderness, often followed by prolonged and heavy menstrual bleeding, both due to higher endogenous estrogen production than in promenopausal years. Later, menopause become a problem, exposing eyes, mouth, vagina and also urethra and bladder to increased risk of recurrent infections. To counteract the increased endogenous estrogen of early perimenopause, progesterone would be ideal, due to it’s antiestrogenic effect at the pituitary. However, since ovulation rates decline from 60% to 5% in the last seven years before the cessation of menses, progesterone is lacking. Application of progesterone may therefore alleviate several of the perimenopausal complaints, even without estrogen treatment. When low estradiol-production supervenes or if hot flushes and flurries are not sufficiently controlled with progesterone alone, estradiol treatment also becomes increasingly important.

TRANSLATIONAL MEDICINE IN REPRODUCTIVE AGING
Sven O. Skouby, Professor, MD, DMSc
Director of Endocrinological and Reproductive Unit
Dep. Ob/Gyn. Herlev Hospital, Faculty of Health and Medical Sciences University of Copenhagen, Denmark

Translational medicine is a rapidly growing discipline in biomedical research and aims to expedite the discovery of new diagnostic tools and treatments by using a multi-disciplinary, highly collaborative, “bench-to-bedside” approach and may apply well to the process of reproductive aging. Reproductive longevity is critical for fertility and impacts healthy aging in women, yet insight into the molecular and clinical mechanisms underlying the biological mechanisms and treatments to preserve it are limited. The human female reproductive lifespan is regulated by the dynamics of ovarian function, which in turn is influenced by several factors: from the basic molecular and environmental mechanisms governing folliculogenesis, to environmental and lifestyle factors affecting the ovarian reserve between conception and menopause. Anti-Müllerian hormone (AMH), a peptide growth factor of the transforming growth factor-β family, is a reliable marker of ovarian reserve. Serum AMH levels can be affected by environmental and genetic factors, the mechanisms underlying the decline in women’s fecundity from the mid-thirties remain to be fully elucidated. The DNA methylation (DNAm) age of most healthy tissues changes predictably with and follows chronological age, but DNAm age in some reproductive tissues has been shown to depart from chronological age. We have successfully developed a granulosa cell clock able to predict the age of both mural granulosa cells and leucocytes. From a broader point of view, global and regional demographic trends play an additional important role in shaping the female reproductive lifespan, and finally, influences on an evolutionary scale have led to the reproductive senescence that precedes somatic senescence in humans. There is now compelling evidence that the inheritance of such genetic information is accompanied by additional epigenetic marks, or stable heritable information that is not accounted for by variations in DNA sequence. The reversible nature of epigenetic marks coupled with multiple rounds of epigenetic reprogramming have made the investigation of this phenomenon challenging.
THE ENDOMETRIOMA AND THE OVARIAN RESERVE: THE CHALLENGE OF THE SURGEON ART BEFORE OPERATION
Edgardo Somigliana, Italy

Two decades have passed since the observation that laparoscopic ovarian stripping, the gold standard technique for the removal of endometriomas, can be detrimental to ovarian reserve. In this period, several groups have proposed alternative surgical modalities, with the aim of limiting, if not preventing, this damage. Interesting options have been proposed and are gaining consensus but, to date, these proposals lack robust evidence from large RCTs, and laparoscopic ovarian stripping remains the most employed approach worldwide. Of relevance here is that the scientific community has started to investigate new surgical approaches in the absence of a definitive demonstration of the pathogenetic mechanisms of damage. This is obviously unfair because the knowledge of the modality of damage is an essential prerequisite to plan techniques that can overcome it. In the debate regarding surgery for endometriomas, a new important awareness has grown in recent years. Much attention should indeed be given to the present definitive demonstration that ovarian reserve is not relevant for natural conception, provided that it is sufficient to ensure regular menstrual cycles. Ovarian reserve is important to ovarian response to hyperstimulation (and therefore for IVF success) but is unremarkable for natural pregnancy seeking. As a matter of fact, if surgery for endometriomas could markedly enhance natural conception (if not restore normal fecundity), the detrimental impact to the ovarian reserve would be of scant relevance. The woman would conceive by herself without the need for IVF. However, is this the case? RCTs are lacking but it is generally believed that the chances of natural pregnancy following surgery for endometriomas in infertile women is below 50%, presumably only 20-30%. Does this justify the possible damage, the longer time to pregnancy and the possible impairment of the chances of success of subsequent IVF? Robust studies investigating the most efficient and the surgical technique for endometrioma are pressingly needed. In the meantime, physicians have to handle information in the wisest manner and tailor therapeutic choices through a process of shared decision-making. The notion that ovarian reserve is unremarkable to natural conception may justifiably differ a vision, i.e. favourable for surgery in case of low and inconsistent IVF in case of intact ovarian reserve. A variant of this vision could be to start with IVF in all cases to maximally exploit the remnant ovarian reserve, and then shift to surgery in case of failure.

DOES COCHRANE REVIEWS SHOW ANY ROLE FOR METFORMIN IN THE MANAGEMENT OF PCOS?
Thomas Tang, UK

Background: Polycystic ovary syndrome (PCOS) is characterised by menstrual disturbance, hyperandrogenism, and hyperinsulinemia. Hyperinsulinemia occurs secondary to insulin resistance and is associated with increased risk of cardiovascular disease and diabetes mellitus. Insulin-sensitising agents such as metformin may be effective in treating PCOS-related anovulation. Objectives: To evaluate the effectiveness and safety of metformin in combination with or in comparison to clomiphene citrate (CC) in improving reproductive outcomes. Search methods: We searched the following databases from inception to Dec 19: Cochrane Gynaecology and Fertility Group Specialised Register, CENTRAL, MEDLINE, Embase, PsychINFO and CINAHL. We searched registers of ongoing trials and reference lists from relevant studies. Selection criteria: We included randomised controlled trials of metformin compared with placebo, no treatment, or an ovulation-induction agent for

and analysis: Two review authors independently assessed studies for eligibility and bias. Primary outcomes were live birth rate and gastrointestinal adverse effects. Secondary outcomes included other pregnancy outcomes, menstrual frequency and metabolic effects. We combined data to calculate pooled odds ratios (ORs) and 95% confidence intervals (CIs). We assessed statistical heterogeneity using the I² statistic and reported quality of the evidence for primary outcomes using GRADE methodology. Main results: We assessed the interventions metformin, clomiphene citrate, metformin plus clomiphene citrate. We compared these with each other, placebo or no treatment. In total, 45 studies (4552 women) were included in the analysis. Metformin versus placebo or no treatment: The evidence suggests that metformin may improve live birth rates compared with placebo (OR 1.59, 95% CI 1.00 to 2.51; I² = 0%; 4 studies, 435 women; low-quality evidence). The metformin group probably experiences more gastrointestinal side effects (OR 4.00, 95% CI 2.63 to 6.09; I² = 39%; 7 studies, 713 women; moderate-quality evidence). There are probably higher rates of clinical pregnancy (OR 1.98, 95% CI 1.47 to 2.65; I² = 30%; 11 studies, 1213 women; low-quality evidence), but gastrointestinal side effects are probably more common when combined therapy (OR 4.26, 95% CI 2.83 to 6.40; I² = 8%; 6 studies, 852 women; moderate-quality evidence). The combined therapy group probably has higher rates of clinical pregnancy (OR 1.62, 95% CI 1.32 to 1.99; I² = 31%; 19 studies, 1790 women; moderate-quality evidence). The combined group may have higher effective rate of ovulation (OR 1.85, 95% CI 1.60 to 2.13; I² = 53%; 21 studies, 1568 women; low-quality evidence). There was no clear evidence of an effect on miscarriage (OR 1.35, 95% CI 0.91 to 2.00; I² = 0%; 10 studies, 1206 women; low-quality evidence). Metformin plus clomiphene citrate: When all studies were combined, findings for live birth were inconsistent and inconsistent (OR 0.71, 95% CI 0.49 to 1.01; I² = 86%; 5 studies, 741 women; very low-quality evidence). In subgroup analysis by obesity status, obese women had a lower birth rate in the metformin group (OR 0.30, 95% CI 0.17 to 0.52; 2 studies, 500 women), while the non-obese group showed a possible benefit from metformin, with high heterogeneity (OR 1.71, 95% CI 1.00 to 2.94; I² = 78%; 3 studies, 241 women; very low-quality evidence). However, due to the very low quality of the evidence we cannot draw any conclusions. Among obese women taking metformin there may be lower rates of clinical pregnancy (OR 0.34, 95% CI 0.21 to 0.55; I² = 0%; 2 studies, 500 women; low-quality evidence) and ovulation (OR 0.29, 95% CI 0.20 to 0.43; I² = 0%; 2 studies, 500 women; low-quality evidence) while among non-obese women, the metformin group may have more pregnancies (OR 1.56, 95% CI 1.06 to 2.29; I² = 26%; 6 studies, 530 women; low-quality evidence) and no clear difference in ovulation rates (OR 0.80, 95% CI 0.52 to 1.25; I² = 0%; 5 studies, 352 women; low-quality evidence). We are uncertain whether there is a difference in miscarriage rates between the groups (overall: OR 0.92, 95% CI 0.51 to 1.66; I² = 36%; 6 studies, 781 women; low-quality evidence) and no studies reported gastrointestinal side effects. Conclusions: Our updated review suggests that metformin may be beneficial over placebo for live birth however, more women probably experience gastrointestinal side effects. We are uncertain if metformin plus CC improves live birth.
efforts are probably increased with combined therapy. When metformin was compared with CC, data for live birth were inconclusive, and the findings were limited by lack of evidence. Results differed by body mass index (BMI), emphasising the importance of stratifying results by BMI. Duostim represents a reasonable alternative to oocyte accumulation, which can be even proposed also underway. Of note, the choice to start immediately a second stimulation shall follow a careful counseling focused on patients’ chance to find at least one euploid embryo on account of their age and of the number of blastocysts obtained after conventional stimulation. Cost-benefit analyses are required from future trials. However, until such evidences can be produced, the autonomous informed choice of the patients to undergo a Duostim protocol should not be questioned, especially after a thorough and careful counseling of its pros, cons, and putative alternatives. Finally, Duostim protocol is confirmed a feasible and efficient approach also from clinical, obstetric and perinatal perspectives, targeted at patients who need to reach the transfer of an euploid blastocyst in the shortest timeframe. Moreover, all results coming from Duostim protocol encourage additional clinical studies and research to further personalize COS in specific populations of patients such as poor prognosis patients, many of whom may benefit from non-conventional protocols. This evidence should be confirmed in future RCT, long-term follow-up of the babies born after LPS are advisable.

DUO-STIM ADVANTAGES AND DISADVANTAGES: PRO
Alberto Valiarelli MD, Ph.D
Fertility Specialist, Medical Scientific Coordinator GeneraLife Rome
GeneraLife Centers for Reproductive Medicine

The personalization of IVF treatment is key in a modern clinic to maximize both efficacy and efficiency. In this context, we should move from evaluating each cycle per se to a more comprehensive vision of the whole treatment. From this perspective, efficiency involves even reducing the burden represented by complications, such as absence of transferable embryos, implantation failure, miscarriage and increasing time loss. In fact, all these factors might in turn increase patient drop-out. Due to the low quality of the evidence, we are uncertain of the effect of metformin on miscarriage in all three comparisons. An improved clinical pregnancy and ovulation rate with metformin and clomiphene citrate versus clomiphene citrate alone suggests that combined therapy may be useful although we do not know whether this translates into increased live births.

SHOULD WE BE USING EXPANDED GENETIC SCREENING IN ALL PATIENTS? YES
Rita Vassena, MD, MD
Spain

In this interesting and timely debate I will defend the position that expanded carrier screening (ECS) should be used in all IVF patients. ECS is defined as the screening for several mutations on dozens of genes, which are causative of monogenic disease of recessive and X-linked inheritance pattern. While carrier screening in an old concept and has been widely accepted for some disease present with high frequency in certain populations (for instance cystic fibrosis or thalassemia), it has historically been proposed to a limited number of at-risk individual. My argument for the necessity of offering ECS to all couples is based on several lines of reasoning: i) the observation that most children affected by recessive genetic diseases are born to families without a history of disease ii) that most genetic diseases detectable at birth are preventable through ART means iii) that the growing tendency to populations to mix will eventually make ethnicity based recommendations less useful, and that iv) the cost of screening for several diseases is now comparable or even lower than screening for just 1 or 2, possibly making these test cost-effective over targeted screening.
**E-POSTER ABSTRACTS**

**INFERTILITY/ART/IVF**

**FERTILIZATION FAILURE AND BLASTOCYST FAILURE: IS PIEZOELECTRIC ACTIVATION AN ALTERNATIVE?**

Biro Aydin¹, Ulyana Dorefeyeva², Halyna Strelko², Veronika Ulanova³, Olga Chaplya⁴, Olga Malitua⁴, Tetiana Pischiana⁴, Makysm Korobko⁵, Elena Kotlirova⁵, Polyna Similany⁶

¹Ovogene Egg Bank, IVMED Clinic, Kiev, Ukraine
²Ovogene Egg Bank, Medical Center IVMED, Kiev, Ukraine

**Problem statement:** Egg activation triggers stimulation with sperm as a result of fertilization, creating long-term Ca²⁺ fluctuations and activating the release and transport of Ca²⁺. These Ca²⁺ fluctuations continue until the pronuclear formation and facilitate early embryo development. Piezoelectric microinjection is a method in which an increase of Ca²⁺ is performed by delivering a certain level of electric current to the eggs after the operation. During fertilization, when the sperm attaches to the zona pellucida, specific receptors in the acrosome are activated and exocytosis occurs. When sperm penetration occurs, intracellular Ca²⁺ concentration increases, and Meiosis II is completed. **Methods:** The sibling group consisting of 31 patients was selected, and all of the patients in the group had an indication of fertilization failure or blastocysts failure in at least 2 previous cycles. Only the ICSI procedure was applied to half of the eggs obtained from the patients. For the second group, electric activation was applied 30 minutes after the ICSI process. The eggs are placed in a buffer solution between two electrodes created in a Micro Dish with 0.5 mm intervals, and a certain level of electricity is given to the eggs with the Electro Manipulator. **Results:** The average age of the patients in our study was 35.29, the average number of IVF cycles without fertilization was 3.8, and the average of cycles without blastocyst was 4.7. According to the results, fertilization rate of 38%, blastocyst rate of 0.9%, and euploid blastocyst rate of 25% were found in the control group without piezoelectric activation. In the electrically activated group, 82% fertilization rate, 48% blastocyst rate, and 66% euploid blastocyst rate were obtained. A clinical pregnancy rate of 55% was also determined in the electrically activated group. **Conclusion:** It was determined that ultra-structural damage was reduced to a very minimum in eggs that underwent the piezoelectric method. Piezo electric method features give valuable results for advanced age patients in the total fertilization failure and blastocyst failure group. It was determined that the method was more effective than other activation methods and we achieved high clinical pregnancy rate.

**VITRIFIED DONOR EGG TRANSPORT: NEW CONCEPT OF EGG DONATION AFTER COVID-19 PANDEMIC?**

Biro Aydin¹, Ulyana Dorefeyeva¹, Halyna Strelko¹, Veronika Ulanova³, Olga Chaplya⁴, Olga Malitua⁴, Tetiana Pischiana⁴, Makysm Korobko⁵, Elena Kotlirova⁵, Polyna Similany⁶

¹Ovogene Egg Bank, IVMED Clinic, Kiev, Ukraine

**Problem statement:** Interest in frozen donor eggs has increased especially due to the difficulties in the travelling of patients awaiting treatment after the Covid-19 pandemic. The fact that the number of egg donors is insufficient, legal regulations are restricting the use of fresh donor oocytes, and patients cannot find adequate numbers and appropriate donor profiles have made egg-banking more important. **Methods:** In our study, we conducted a general analysis of survival, cleavage and blastocyst rates of vitrified donor eggs in 40 different clinics. In addition, the number of clinics using vitrified donor eggs in 2019 was compared to the pre-pandemic period. The aim of our study was to show the direct effect of the egg-banks on ART performance in different countries, as well as evaluate possible increase in egg donation cycles after the Covid-19 pandemic. **Results:** The data obtained through egg-banking initially included 30492 frozen donor eggs. Post-thawing survival rate reached 89.96%; average fertilization rate was determined to be 84.22%; blastocyst utilization on the 5th and 6th days comprised 44.52%. We calculated that frozen donor eggs were sent 171 times to 64 clinics from 27 countries in the part of 2020 until the pandemic period and all these shipments were successfully completed. During the Covid-19 pandemic in the last 3 months of 2020 and the first month of 2021, frozen donor eggs were successfully sent 96 times to 40 clinics from 21 countries. Frozen donor egg circulation during Covid-19 period was compared to circulation in the same period of 2019. In the last 3 months of 2019 and the first month of 2020, 5219 frozen donor eggs were sent to 31 clinics in 18 countries; and based on the last 3 months of 2020 and the first month of 2021 (Covid-19 pandemic period), 6874 frozen donor eggs were sent to 40 clinics from 27 countries. **Conclusions:** Frozen donor oocyte usage became more effective during Covid 19 pandemic. Egg Banking can supply more alternative for donor profiles, high quality morphological donor egg and better outcomes for egg donation cycles. There is no risk or potential damage to frozen donor eggs during transportation.

**CASUAL DIAGNOSIS OF QUIMERA IN A MAN WITH FERTILITY PROBLEMS**

Elisabet Barahona¹, Alba Cruz Garcia¹, Daniel Ponce Arrocha¹, Yolanda Gil Gonzalez¹, Elisabet Barahona¹, Loidia Maria Garcia Cruz¹, Alfredo Santana Gonzalez¹, Monica Alvarez Sanchez¹, Nelda Benitez Castillo¹, Lourdes Roldan Gutierrez², Marta Armas Roca²

¹Assisted Reproduction Unit, Complejo Hospitalario Universitario Insular Materno Infantil, Las Palmas de Gran Canaria, Spain

**Introduction:** By definition, a chimera is produced by the fusion of two different zygotes in a single embryo. It is a rare chromosomal disorder in humans. **Methods:** We report a 34-years old male with no medical or surgical history. Man phenotype, normal physical exploration. He and her partner were being studied in Human Reproduction Unit because of primary sterility. He has normal analysis. Seminogram showed criptoospermia, second seminogram showed isolated sperm. A karyotype was requested which result was: 46XX, inv(9)(p11q13)[42]/46XY[7]. The metaphases analyzed with a resolution of 400 bands show two cell lines, both normal but with different sex chromosome composition, a minority (15%) with male sex chromosomes (XY), and another with female sex chromosomes (XX) (85 %) that also presents an inversion of the heterochromatic block of one of the chromosomes of pair 9. It is considered an extreme of the normal variability of the karyotype, a polymorphism compatible with normality.It is concluded that it is a chimera caused by the fusion of two different zygotes. **Conclusion:** It was a casual diagnosis of chimera because of de sterility and a pathological seminogram. It is interesting because it is an really uncommon chromosomal abnormality. In order to have more information about the chimera we would like to take some buccal tissue, nails biopsies. In order clear and study deeply the XXXXY ratio in the different tissues of the body. We will also make an abdominal ultrasound in order to clarify the
Low Serum Progesterone Levels the Day Before Frozen Embryo Transfer and the Pregnancy Rate
Nelda Benteix Castillo1, Nelda Benteix Castillo1, Monica Alvarez Sanchez1, Lourdes Roldan Gutierrez1, Jose Tabares Concepcion1, Marta Armas Roca1
Human Reproduction Unit, Hospital Universitari Materno Infantil De Canarias, Las Palmas De Gran Canaria, Spain

Objective: To determine the association between serum progesterone levels the day before frozen embryo transfer (FET), and the rate of pregnancy and spontaneous abortion in artificial cycles. 

Material and methods: This was a prospective cohort study which included 156 artificial cycles performed at the Reproduction Unit of a tertiary hospital between January and October 2020. Endometrial preparation was performed by administering oral or transdermal estrogens from the first day of the menstrual cycle. Serial ultrasound scans on follow up were carried out and, when a three-layered pattern endometrium with a thickness of 7 mm or more was achieved, vaginal progesterone (200 mg / 8 h) was started for either 5 or 3 days if blastocysts or pre-embryos were to be transferred, respectively. The morning before the FET day serum progesterone levels were determined and 14 days later, bHCG levels were tested. Results: The pregnancy rate in artificial cycles was 39.7% and the spontaneous abortion rate was 14.1%. There were no significant differences in progesterone levels between patients who achieved pregnancy (10 ng/ml) from those that did not (10.5 ng/ml), (p = 0.262). In order to eliminate the possible confounding factor of poor quality embryo on the pregnancy rate, analysis was stratified by embryo quality following the ASEBIR classification, however, no significant differences were found. The cut-off point for progesterone levels in our population, for a sensitivity of 80%, was 8.5 ng/ml, with no significant differences in pregnancy rates. However, those who had a miscarriage had lower progesterone levels (10.8 ng/ml) compared to those with an on-going pregnancy (11.6 ng/ml) (p = 0.187). The spontaneous abortion rate was lower with progesterone levels 8.5 ng/ml (p = 0.157). These differences were not significant, most likely due to the small sample size. Conclusions: Serum progesterone levels are not a good predictor of pregnancy rate. We did not find better pregnancy rates in women with higher serum levels of progesterone however we did find a higher abortion rate in women with progesterone levels ≤8.5 ng/ml.

Adenomyosis and in Vitro Fertilization: Systematic Review and Meta-Analysis of the Effects of Ultralong or Modified Ultralong Agonist Protocol on Reproductive Outcomes
Maria Carrera2, Jose Antonio Dominguez4, Juan Luis Alcazar2, Luis Alonso2, Enrique Moratalla2, Federico Perez Milan1, Tony Carugno1, Miguel Caballer1
1Fertility Unit, Hospital General Universitario Gregorio Marañón, Madrid, Spain
2Fertility Unit, Hospital Universitario Doce De Octubre, Madrid, Spain
3Gynaecology, Clinica Universitaria de Navarra, Pamplona, Spain
4Fertility Unit, IERA, Badajoz, Spain
5Gynaecology, Hospital Universitario Ramón y Cajal, Madrid, Spain
6Gynaecology; Hospital Quirón Málaga, Málaga, Spain
7Gynaecology, University of Miami, Miami, USA

Problem statement: Adenomyosis is a benign uterine disorder in which endometrial glands and stroma are located within the myometrium causing uterine bleeding, pain and infertility. Previous meta-analyses have addressed a deleterious effect of adenomyosis over in vitro fertilization (IVF) results. 

Methods: Systematic review with meta-analysis of studies conducted following PRISMA guidelines assessing the IVF results in patients with adenomyosis compared to controls and studies comparing the effects of ultralong or modified ultralong protocol with standard agonist protocol for ovarian stimulation prior to IVF inpatients with adenomyosis. Results: After a systematic search using MEDLINE, PubMed, EMBASE, Cochrane, and main international Trial Registries, 668 studies were retrieved of which 60 were assessed for eligibility. Twenty-one observational studies were included in the qualitative review and nineteen in the meta-analysis, involving reproductive outcomes from 8660 patients. Sixteen studies assessed the effect of adenomyosis on IVF results. Live birth rate after IVF was significantly reduced in patients with adenomyosis (OR=0.62; 95% CI, 0.43-0.90; 9 studies, 5207 patients). Clinical pregnancy rate was also significantly reduced (OR=0.65; 95% CI, 0.51-0.82) and miscarriage risk was significantly increased (OR=1.74; 95% CI, 1.10-2.75). When results were adjusted by age, live birth rate remained significantly reduced (OR=0.77; 95% CI, 0.64-0.92; 7 studies); clinical pregnancy was also significantly lower (OR=0.73; 95% CI, 0.57-0.93; 11 studies) and the miscarriage rate was significantly increased (OR=1.99; 95% CI, 1.07-3.68; 11 studies). Four studies assessed the potential effect of long term down regulation with GnRH before IVF treatment. Live birth, clinical pregnancy and miscarriage rates after ultralong or modified ultralong agonist protocol for down regulation were not significantly different compared to the long agonist protocol. Conclusion: Adenomyosis is significantly associated with a lower chance of live birth and clinical pregnancy and a higher risk of miscarriage after IVF even after adjusting for confounding factors as age. Live birth and clinical pregnancy rates were not significantly different after ultralong or modified ultralong agonist down-regulation protocol. The potential beneficial role of this therapy needs to be properly assessed in randomized controlled studies.

Does Individualised AMH and BMI Adjusted Dose of Follicitropin Delta for Ovarian Stimulation Minimise Ovarian Hyperstimulation Syndrome Risk in Hyper-Responders? 
Meenakshi Choudhary1, Louise Hyslop1, Inosha Bambarama1, Jane Stewart1
Newcastle Fertility Centre at Life, Newcastle Upon Tyne Hospitals NHS Trust, Newcastle Upon Tyne, UK

Ovarian hyperstimulation syndrome (OHSS) is a significant adverse event of assisted reproductive technology (ART) cycles resulting in maternal morbidity. In the UK, it is a mandatory requirement to report severe/critical OHSS incidents to the national regulatory body. Follicitropin-delta has recently gained momentum for use in controlled ovarian stimulation (COS) during ART cycles as its dose can be individualised for a woman based on her body mass index (BMI) and AMH using an algorithm. In hyper-responders at higher risk of developing OHSS, there is lack of evidence regarding ability of individualised dosing with follicitropin-delta in minimising OHSS. Aims: Does BMI and AMH adjusted individualised dosing of follicitropin delta minimise risk of OHSS in hyper-responders during ART cycles? Methods: A service improvement retrospective review was performed on data spanning July 2020 to August 2021. Women undergoing ART cycles with BMI ≤30, AMH ≥30 pmol/l and/or antral follicle count of 30 (referred to as hyper- responder group) met the eligibility criteria. Data from women on individualised dose of follicitropin-delta (RekovielleTM) for COS were compared with women, who were on highly purified human menopausal gonadotrophins, hMG (MenopurTM). Primary outcomes were number of oocytes retrieved and OHSS rates. Secondary outcomes were number of follicles aspirated, oocyte recovery rate, oocyte maturation rate (Metaphase II oocytes), fertilization rate and OHSS risk. Results: Of 119 participants, 57 had follicitropin-delta whilst 62 had hMG with median age ± Standard deviation (SD) of 32 (±3.8) and 33.5 years (±4.5)
DNA fragmentation rate of more than 60% was observed. 2 months of frequent ejaculations, a reduction in the sperm reproduction technique. The rest were achieved in a private 13.5% were spontaneous and 16.2% after assisted treatment, it decreased to 24.6%. The mean reduction was oligotherozoospermia, 5.4% cryptozoospermia, 2.7% asthenotherozoospermia, 8.1%.

At least one miscarriage had occurred in 10.8% of the groups. Exclusion criteria were: Loss to follow-up or pregnancies no embryo progression after ART, or after 2 unsuccessful in vitro fertilization cycles and no other justifying cause. No embryo progression after ART, or after 2 unsuccessful in vitro fertilization cycles and no other justifying cause. No embryo progression after ART, or after 2 unsuccessful in vitro fertilization cycles and no other justifying cause. No embryo progression after ART, or after 2 unsuccessful in vitro fertilization cycles and no other justifying cause.

Results: Thirty-seven men were included, whose mean age was 36.2 years. 13.5% were smokers and 5.4% had chronic arterial hypertension. Almost 180 million people around the world experience infertility, and most of those people live in developing countries. Nowadays, IVF services has become available in developing countries, but the proportion of couples seeking medical care was still lower compared with developed countries and the proportion of people actually receiving care was substantially less. This study aims to determine the barriers that cause delaying to take IVF program among infertility couples in developing countries.

Methods: A scoping review was conducted using the Population-Concept-Context (PCC) framework by the Joanna Briggs Institute. We searched five electronic databases for published articles and additional search strategies (snowballing literature search and citation tracking). Comprehensive literature searches and study selection were conducted by two authors, data extraction were finalized by discussion with other authors.

Result: There were eleven included articles in our scoping review, and the country origin represents the developing countries from throughout the world. The qualitative study was the most widely used study design in these sources of evidence. The cost of the IVF program was the most mentioned from included studies in our scoping review to be the greatest barrier. Limited access and less of ARTs center, lack of qualified infertility trained staff, no government subsidy or support, the government policy and priority, sociocultural, religion and myths were also being majority obstacles among infertility couples in low-income countries.

Conclusion: The high cost of IVF services is the main barrier on infertility treatment that cause delays in IVF programs in developing countries. Thus, the affordable, acceptable and effective IVF program is needed for infertility treatment.

Keywords: In vitro fertilization, assisted reproductive techniques, assisted reproductive technologies, barriers, developing countries, low-income countries.

DEVELOPMENT OF A NEW DEVICE FOR AUTOMATIC VITRIFICATION OF OOCYTES

Cristina Dosda Munuera1, Lucia Mendoza1, Yolanda Cabello1, Javier Guerrero-Sanchez1, Joana Fidalgo1, Daniel Garcia-Alonso1, David Cancio1, Gonzalo Fernandez-Blanco1, Pablo Carasa2, Sara Alvarez2, Lionel Matthys2, Jose A. Horcajadas1, Santiago Munne1

Embroyology, OVERTURE LIFE, Alcobendas, Spain

Problem statement: Vitrification is a technique used daily in assisted reproduction clinics for the cryopreservation of oocytes and blastocysts which provides good results. The most used methodology worldwide is the Kitazato protocol, which has reported the best survival rates. The manual procedure can be variable between clinics and users in the same centre and is not free from human error, which leads to low replicability from one protocol to another. The aim of developing an automated vitrification device using Kitazato vitrification/warming medium is to eliminate possible errors and variability between users and so that, what is vitrified in one centre can be warmed in another and vice versa. This would optimize the protocol, achieving better results and the same survival rates, regardless of the centre where the technique has been performed.

Methods: The automated device and the microfluidic chip were designed by our team.
We used 235 mouse zygotes (to mimic oocyte behaviour because of their greater availability and similar characteristics) divided into 2 groups: A) Automated protocol (n=132); B) manual control group according to Kitazato protocol (n=103). Results: A chi square test was performed in order to compare survival rates between protocols, that were the following: A: 97.90%; B: 99.00%. No statistical differences were found between groups. Conclusions: Our device for the automation of oocyte vitrification offers promising results on survival rates and similarities routinely used in IVF laboratories. The use of an automated device could lead to homogenization of results across assisted reproduction clinics, thus avoiding human error and variability between centres.

KISSPEPTIN – A POTENTIAL OOCYTE MATURATION TRIGGER FOR IN VITRO FERTILIZATION

Emina Ejubovic1,2, Miro Kasum 1, Ivka Djakovic 4, Malik Ejubovicici
1Department of Gynaecology and Obstetrics, Cantonal Hospital Zenica, Zenica, Bosnia and Herzegovina
2Department of Obstetrics and Reproductive Endocrinology, Sarajevo Medical School, Sarajevo School of Science and Technology, Sarajevo, Bosnia and Herzegovina
3Department of Obstetrics and Gynaecology, University Hospital Center Zagreb, School of Medicine, Zagreb, Croatia
4Department of Internal Diseases, Cantonal Hospital Zenica, Zenica, Bosnia and Herzegovina

Problem statement: Despite the fact that GnRH plays a pivotal role in controlling reproductive functions, kisspeptin has recently emerged as a key regulator of the HPG axis. Peripheral administration of different isoforms of kisspeptins (kisspeptin-10 and 54) has been shown to stimulate GnRH and gonadotropin release and to activate the LH surge required for oocyte maturation and ovulation in animal studies. Since animal and human studies have suggested that the peripheral administration of kisspeptin-10 and 54 is involved in the generation of the LH surge, it was hypothesised that exogenous kisspeptin could be used to trigger oocyte maturation in women with subfertility undergoing IVF treatment. Methods: This paper presents a review of the current information about kisspeptins as a potential oocyte maturation trigger in IVF procedures. Papers published in the last 10 years (between 2010 and 2020) were included in this review. Results: Recent studies investigated the potential for kisspeptin as a novel method of triggering oocyte maturation in women undergoing IVF. In a recombinant FSH/GnRH antagonist IVF protocol, a single subcutaneous injection of kisspeptin-54 was used as an oocyte maturation trigger. Fertilisation occurred in 92% of cases, with biochemical and clinical pregnancy rates of 40% and 23%. Kisspeptin-54 may be used efficiently to trigger oocyte maturation in women at high risk of developing OHSS. In a randomised clinical trial of 60 women following a standard recombinant FSH/GnRH antagonist protocol, where a single injection of kisspeptin-54 was used to trigger oocyte maturation, the achieved pregnancy rates compared, with currently used pharmacological triggers of oocyte maturation. Conclusions: Peripheral kisspeptin administration could be used as a promising method of triggering oocyte maturation in women undergoing IVF treatment due to its efficacy estimated through pregnancy rates when compared to pharmacological triggers currently in use. Furthermore, kisspeptin may also be administered effectively and safely to trigger oocyte maturation in patients at high risk of developing OHSS. Further research with larger studies will be required in the future to determine the clinical utility of kisspeptin, establish the optimal trigger of oocyte maturation, and to improve the reproductive outcome for women undergoing IVF treatment.

SUBTLE CHANGES IN PERIVASCULAR STROMAL STEM CELLS AFTER LOCAL ENDOMETRIAL INJURY

Yiping Fan1, Ryan Wai Kheong Lee2, Xiang Wen Ng3, Caroline Gargett4, Jerry Kok Yen Chan1
1Dept of Reproductive Medicine, KK Women's and Children's Hospital, Singapore, Singapore
2Dept of Obstetrics and Gynaecology, KK Women's and Children's Hospital, Singapore, Singapore
3The Ritchie Centre, Hudson Institute of Medical Research, Victoria, Australia
4Dept of Obstetrics and Gynaecology, Monash University, Victoria, Australia

Problem statement: One often used adjunct therapy for recurrent implantation failure (RIF) is to generate a local endometrial injury (LEI) also known as endometrial scratching. We wondered about the role of perivascular stromal stem cells (pSSC) which mediate cyclic regeneration of the endometrium, allowing it to adapt to local injury by enhancing their stem cell role in stromal vascular tissue regeneration. Accordingly, we aimed to investigate the impact of LEI on pSSC and determine if LEI alters their proportion and/or affected their decidualization. Methods: Consecutive paired mid-luteal phase endometrial biopsies were obtained from patients with RIF. The biopsies were digested into single cells with the proportion of SUS2-expressing cells, compared and sorted out using magnetic beads. Under hypoxic condition of 5% oxygen, we compared the CFU-assays and cell expansion of the SUS2+ve fraction between the 2 samples. Decidualization was also carried out, with produced prolactin and IGFBP-1 levels compared. Results: Thirty-two participants were recruited with 26 successfully paired samples. The mean age of the participants are 35±3.2yrs old. There is no significant change in the proportion of SUS2+ cells at the first pipelle biopsy (before LEI, 8.69±8.9%) compared to the second (6.64±6.0%) (p = 0.78). Cloning efficiencies were 14.7±12.4% and 19.4±17.8%, respectively for SUS2+ cells obtained from 1st and 2nd LEI, with a non-significant p-value of 0.37, indicating similarity between consecutive biopsies. Using ELISA, prolactin secretion from SUS2+ cells from the first LEI was 4.19±1.5 times higher than that from the second LEI culture supernatants (p-value:0.008). The same decrease was also observed in expression of IGFBP-1, where there is a 11.5±7.9 fold decrease (p-value:0.04). This difference is corroborated with qPCR where a marked decrease was also observed in expression of IGFBP-1, where there is a 11.5±7.9 fold decrease (p-value:0.04). This difference is corroborated with qPCR where a marked decrease was also observed in expression of IGFBP-1, where there is a 11.5±7.9 fold decrease (p-value:0.04). This difference is corroborated with qPCR where a marked decrease was also observed in expression of IGFBP-1, where there is a 11.5±7.9 fold decrease (p-value:0.04). This difference is corroborated with qPCR where a marked decrease was also observed in expression of IGFBP-1, where there is a 11.5±7.9 fold decrease (p-value:0.04). This difference is corroborated with qPCR where a marked decrease was also observed in expression of IGFBP-1, where there is a 11.5±7.9 fold decrease (p-value:0.04). This difference is corroborated with qPCR where a marked decrease was also observed in expression of IGFBP-1, where there is a 11.5±7.9 fold decrease (p-value:0.04). This difference is corroborated with qPCR where a marked decrease was also observed in expression of IGFBP-1, where there is a 11.5±7.9 fold decrease (p-value:0.04). This difference is corroborated with qPCR where a marked decrease was also observed in expression of IGFBP-1, where there is a 11.5±7.9 fold decrease (p-value:0.04). This difference is corroborated with qPCR where a marked decrease was also observed in expression of IGFBP-1, where there is a 11.5±7.9 fold decrease (p-value:0.04).
the transfer of one blastocyst and two pre-embryos. Finally, a new attempt was made with a natural cycle with the transfer of two pre-embryos. At 20 days, 6 weeks after the date of the last corrected period, she went to the emergency department for abdominal pain. On examination, a painful abdomen was observed with no signs of peritoneal irritation, normal gynaecological examination and on transvaginal ultrason sound adjacent to the right ovary two anechoic formations of 12x13 mm and 15x17mm, one of them with a vitelline vesicle inside, free perianexitinial liquid and hypervascularization suggestive of organised clots. BHGC 11501 mUI/ml was performed. Urgent laparoscopy was indicated and a right salpingectomy was performed.

**Discussion:** Ectopic pregnancy is the main cause of maternal morbidity and mortality in the first trimester and its incidence increases with ART. The most common type of twin ectopic pregnancy is heterotopic (1/7000 pregnancies). Unilateral twin ectopic gestation is an even rarer entity with few cases reported in the literature. There are clear guidelines on the management of singleton ectopic pregnancies, no such recommendations exist for multigestational ectopic pregnancies. The risk of rupture is higher in this type of gestation, estimated at 30-50%.

**Conclusion:** Ectopic gestation is a rare but increasing entity due to the increased use of ART. Its management remains a challenge for practitioners.

**IMPORTANCE OF ENDOCRINOLOGICAL EXAMINATION IN SUCCESSFULNESS OF IVF TREATMENT**

Tunde Herman1, Peter Torok2, Attila Jakab2

1Assisted Reproductive Medicine, University of Debrecen, Debrecen, Hungary
2Department of Obstetrics and Gynecology, University of Debrecen, Debrecen, Hungary

**Problem statement:** More than 40 years ago IVF treatment has been introduced for tubal infertility. Last decades, indication of IVF has been extended to more disorders, endocrine disorders included. Ovulatory dysfunction, associated with endocrine diseases is a common leading or associated cause of female infertility, but at optimal reproductive age causal or ovulation induction treatment can usually settle fertility. The leading indications for IVF treatment are current and originated from age-related ovarian infertility, but other accompanying endocrine dysfunctions affect treatment outcomes. Detailed endocrinological assessment has crucial role in successful infertility treatment. **Methods:** During aptitude tests prior to the IVF program, from the leading indication independently, a detailed endocrinological examination was performed in 231 women (mean age 34 years). The studies of hypothalamic and ovarian function, thyroid function and thyroid autoimmunity, adrenal function, carbohydrate metabolism and insulin resistance were covered. In addition to the incidence of each endocrine disease, the frequency of their association was analyzed.

**Results:** Endocrinological parameters and data was analyzed in 231 cases. The distribution of IVF lead indications was in line with the international trends, was endocrine nature in 87 cases (37.6%), decreased ovarian reserve in 55 cases and chronic anovulation in 32 cases). Associated endocrine abnormalities were found in 141 cases, for a total of 161 with endocrine dysfunction (67.9%, mean age 35 years). Endocrine dysfunctions incidence in order of frequency: thyroid dysfunction: (32.5%), diminished ovarian reserve (23.8%), thyroid autoimmunity (22.5%), polyclastic ovarian syndrome (15.6%), insulin resistance (22.5%), obesity (23.8%), hyperprolactinemia (13.4%). The endocrine disease associations were found in all of the cases above. Hypogonadotrophic hypogonadism occurred in two cases: congenital adrenal hyperplasia occurred in one case. No endocrine abnormalities were found in 70 cases (30.3%).

**Conclusion:** Our study confirms the cumulative appearance of endocrine dysfunctions- and frequent association in IVF participants with any lead indication. The detailed endocrine examination and proficiency/skill in reproductive endocrinology of IVF practitioners may contribute to IVF treatment success.

**CRISPR-CAS9 AND IVF: REVISITING HE JIANKUI’S EXPERIMENT**

Eben Kirksey

Alfred Deakin Institute, Deakin University, Melbourne, Australia

**Problem statement:** The world’s first experiment that brought IVF and CRISPR came together resulted in the jailing of He Jiankui and his core scientific team. Amidst the controversy the clinical data about the two twins at the centre of the experiment, Lulu and Nana, were never published. **Methods:** Ethnographic and archival. As a cultural anthropologist I interviewed key people involved in Dr. He Jiankui’s experiment. Laboratory personnel allowed me to review original clinical data from the birth of Lulu and Nana, as well as their genome sequences. **Results:** Lulu and Nana were born by emergency cesarean section at thirty-one weeks of age. Both had Apgar scores of 8. These results were first published in October 2020 in my book, The Mutant Project: Inside the Global Race to Genetically Modify Humans (St. Martin’s Press). I am keen to discuss these findings with the COGI community. **Conclusion:** He Jiankui misled the scientific community when he claimed these twins “came crying into the world as healthy as any other babies,” with his unconventional announcement on YouTube. When this video was recorded, both babies were actually in a neonatal intensive care unit. At this point it is unknown if the premature birth was the result of known risks of an IVF pregnancy with twins, or an unknown risk of genome editing with CRISPR-Cas9. The blood cells of the twins were also not tested by the He Laboratory to see if they were resistant to the HIV virus. As a social scientist I also studied the values that shaped this experiment. In contrast to much of the public reporting, I found that a vast network of international scientists, investors, and Communist Party officials supported the He Laboratory. I found that market values--focused on speed and disruptive innovation--drove the experiment forward. The targeted CCR5 receptor was selected in recognition of how HIV is an ongoing social problem in China--associated with shame and stigma. The laboratory did follow international norms regarding participant consent, even though the significance of the world’s first CRISPR experiment was downplayed to couples who volunteered.

**ENDOMETRIAL ScratchinG WITH ANALYsis UTERINE NATURAL KILLER AND PRP (PLATELET RICH PLASMA) INCREASE EMBRYO IMPLANTATION RATE**

Giovanni Menaldo

1Unità Di Procreazione Assistita, Centro Clinico San Carlo Di Torino, Turin, Italy

**Problem statement:** Endometrial scratching is technique proposed to facilitate embryo implantation and increase probability of pregnancy in women undergoing in vitro fertilization (IVF). Endometrial immune reaction that occurs in women during implant window is crucial for implantation. Under physiological conditions, uNK lymphocytes are not spontaneously cytotoxic. However, uNK cells are not the only ones in the endometrium: in a predominantly Th1 environment, dendritic cells and Treg cells can increase the uNK lymphocytes cytotoxicity and in turn they are able to recognize trophoblastic cells as non-self and reject them by inducing a missed implant and repeated abortions. When uNK lymphocytes are exhausted, aggressive environment is produced in the endometrium causing implantation failure. An altered immune system can be linked to abortions or repeated failures of embryonic implant so a balanced local immune biological reaction is necessary.
to allow the embryo adhesion phase. **Methods:** Our study included patients with IVF at scientific or clinical laboratories and bioteched. The social sciences hence bring a unique perspective to sensitive debates and societal tensions. They do so by bringing to the fore actual practices more than abstract sociocultural values.

**EVALUATION OF ACTIVATED PROTEIN C RESISTANCE IN WOMEN UNDERGOING OVARIAN STIMULATION PRIOR IN-VITRO FERTILIZATION**

Laure Mortmont1, Elise Modaffari, Elise Modaffari1, Giovanni Tiscia, Giovanni Tiscia2, Filomena Cappucci, Filomena Cappucci1, Antonio Delaurenzo, Antonio Delaurenzo1, Jean-Michel Dogne, Jean-Michel Dogne2, Elvira Grandone, Elvira Grandone3, Jonathan Douxfils, Jonathan Douxfils2

1Research Department, Qualiblood SA, Namur, Belgium
2Department of Pharmacy, Namur Thrombosis and Hemostasis Center (NTHC), Namur Research Institute for Life Sciences (NARILIS), University of Namur, Namur, Belgium
3Atherosclerosis and Thrombosis Unit, I.R.C.C.S. «Casa Sollievo della Sofferenza», San Giovanni Rotondo, Italy

**Problem statement:** The ovarian stimulation prior in-vitro fertilization causes a significant increase in serum estradiol and progesterone levels which may influence hemostasis. The resistance to activated protein C (APC) is significantly impacted in women using hormonal therapy (e.g., hormone replacement therapy or combined oral contraceptives). The aim of this pilot study was therefore to investigate APC resistance in women undergoing ovarian stimulation, using the validated endogenous thrombin potential (ETP)-based APC resistance assay. **Method:** Ten women aged from 29 to 38 were included in this retrospective observational study. Among those women, 3 patients were carrier of a genetic mutation, of which one heterozygous factor V Leiden and two heterozygous prothrombin G20210A mutations. The ovarian stimulation treatment was either menotropin, follitropin, progesterone or estradiol valerate. The ETP-based APC resistance assay is a global coagulation test which aims at assessing the resistance towards APC based on the measurement of thrombin generation over time. Results are expressed in normalized APC sensitivity ratio (nAPCsr) computed as following: [sample ETP (+APC)/sample ETP (-APC)]/[Reference plasma ETP (+APC)/Reference plasma ETP (+APC)]; in which the ETP-parameter corresponds to the area under the thrombin generation curve (Figure 1). The nAPCsr scales from 0.10 to 5.0 and scores which are closer to 0.10 show higher resistance to APC and consequently a higher risk of thrombosis. **Results:** Ovarian stimulation appeared to have small impact on APC resistance (Figure 1). Indeed, for most samples, nAPCsr was within normal ranges of 0 to 2.08. A resistance to APC, with nAPCsr of 4.1 was expected for the woman carrier of a Factor V Leiden mutation. A slight resistance to APC (nAPCsr of 2.4) was also observed in the patient taking estradiol valerate. In comparison, women treated with oral contraceptives containing ethinylestradiol show nAPCsr ranging from 3.5 to more than 5.0 depending on the associated progestin. **Conclusion:** This pilot study showed that ovarian stimulation with FSH agonist (menotropin or follitropin) had small impact on APC resistance. Ovarian stimulation prior in-Vitro Fertilization (IVF) bears a danger of dehumanizing embryos. Biological science objectifies embryos by selecting them based on morphological quality, when patients project the birth of their child, a subject of humanity. This philosophical duality of object and subject has deep roots into French and European culture: Cartesian philosophy, Christianity and the very birth of bioethics after the Second World War. Yet, nothing is known of the daily laboratory practice. Bioethical debates and subsequent laws were analyzed through precise reading of transcripts, publications, and media representation. Laboratory practices were documented through in situ observations as well as extensive interviews with embryologists, gynecologists, psychologists and lab technicians. Cross cultural analysis of laboratories was used to highlight scientific similarities of developmental biology in two significantly different countries and the sociocultural milieu were biotechniques are implemented. **Results:** French ARTs professionals are aware of local bioethical debates. They also personally do not believe that embryos are cells only, but have a special status based on parental projects. They mingle different representations while performing their science, hybridizing cell quality assessment with potential personhood and family making horizons. When interacting with patients, they also consider the ethical risks of over-objectifying and over-humanizing embryos. They do so in a way that values both scientific evidence and parental projects. **Conclusion:** The assumption that IVF and embryo selection constitute a threat to humanization is based on philosophical theories more than actual practices. Bioscientific practices are a means to connect different realms such as family making, biology, health and biotechnologies. The social sciences hence bring a unique perspective to sensitive debates and societal tensions. They do so by bringing to the fore actual practices more than abstract sociocultural values.
THE EFFECT OF POST-THAW CULTURE DURATION ON IVF OUTCOMES IN SINGLE BLASTOCYST TRANSFER CYCLES.

Ibrahim Pala1, Funda Gode1, Volkan Emirdar1

IVF Center, Izmir Economy University Medical Park Hospital, Izmir, Turkey

Problem statement: There is limited finding about the effect of post-thaw culture duration on IVF outcome. Therefore, the aim of study is to evaluate clinical outcomes including pregnancy, clinical pregnancy, live birth and miscarriage rates after two different duration of thawing protocols. Methods: 192 infertile patients who were admitted to the IVF center of Izmir Economy University Medical Park Hospital were included in this retrospective study. Patients underwent IVF treatment having ‘freeze-all’ cycles. Beside, the patients have no previous embryo transfer attempts and with a single blastocyst transfer were selected in FET cycle. Exclusion criteria were patients (i) women ≥40 years old, (ii) having azoospermia, and (iii) PGS. For group 1, only the best grade I one embryo was thawed on day 3 and the others re-evaluated on day 5 and were vitrified. In group 2, all the embryos directly were vitrified on day 3 and the others re-evaluated on day 5 and were vitrified. In group 2, the embryos were cultured through day 5 and vitrified. In group 1, selected one high-quality cleavage-stage embryo was thawed on day 3 and the others re-evaluated on day 5 and were vitrified. Group 2, all the embryos directly were cultured through day 5 and vitrified. In group 1, selected one high-quality cleavage-stage embryo was thawed on day 3 and cultured in the prolonged culture (48 h of post-thaw culture) up to day 5. For group 2, only one blastocyst was thawed and cultured in the short culture (2-4 h of post-thaw culture) up to day 5. For group 2, only one blastocyst was transferred. Results: There was no significant difference between groups in terms of baseline characteristics. Also, there were no significant differences between blastocyst quality according to Gardner’s classification (defined as Excellent (AA), good (AB BA), fair (BB) and poor (others)) on day 5 between the groups. Both blastocyst qualities according to Gardner’s characteristics. Also, there were no significant differences between blastocyst qualities according to Gardner’s classification (defined as Excellent (AA), good (AB BA), fair (BB) and poor (others)) on day 5 between the groups. Between blastocyst qualities according to Gardner’s characteristics. Also, there were no significant differences in terms of clinical pregnancy rate and live birth (%50 vs %47, p=0.48) rate per blastocyst transferred were found similar in the both groups (Table).

<table>
<thead>
<tr>
<th>Table</th>
<th>Variables</th>
<th>Grup1 (n=112)</th>
<th>Grup2 (n=80)</th>
<th>P-value</th>
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<tr>
<td>Pregnancy (%)</td>
<td>81(72.3)</td>
<td>50(60,5)</td>
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<tr>
<td>Clin. Pregnancy (%)</td>
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<td>Live birth (%)</td>
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<td>Miscarriage rate (%)</td>
<td>14(12,5)</td>
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<td>0.49</td>
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Conclusion: In conclusion, these results support that the duration of post-thaw culture does not effect IVF outcomes in single blastocyst transfer cycles.

Abbreviations: IVF: In vitro fertilization; FET: Frozen-thawed embryo transfer; PGS: Preimplantation genetic screen

Disclosure of interest: None Declared

ABOUT A CASE: CHAPELLE SYNDROME

Daniel Ponce Arrocha1, Alba Maria Cruz Garcia1, Elisabet Barahona San Millan1, Yolanda Gil Gonzalez2, Alfredo Santana Rodriguez2, Loida Maria Garcia Cruz2, Maria Alejandra Santana Santana1, Monica Alvarez Sanchez3, Lourdes Roldan Gutierrez1, Nelda Benitez Castillo1, Marta Armas Roca1

1Ginecología y Obstetricia,Complejo Hospitalario Materno Infantil de Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Spain
2Genética,Complejo Hospitalario Materno Infantil de Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Spain

44-year-old male undergoing follow-up for hypogonadotropic hypogonadism, bilateral gynecomastia, and history of infertility. During the study of this pathology, it was found that the patient had female chromosomal sex, corroborated by karyotype in peripheral blood. For this reason, a genetic study is requested to identify fragments of the Y chromosome. The patient has a normal diploid endowment for the autosomes studied; Likewise, a double dose is identified for all the markers of the X chromosome. These results are compatible with the 46, XX karyotype provided. However, thorough evaluation of markers on the Y chromosome identifies the presence of a portion of the Y chromosome with a single copy. The fragment present in his genome corresponds to a distal portion of the short arm of the Y chromosome, including the SRY gene. The identification of markers corresponding to the Y chromosome in the patient’s genome, together with the 46 XX karyotype, allows corroborating the diagnosis of Chapelle Syndrome. Chapelle syndrome is a rare alteration of sexual differentiation that affects 1 / 20,000 men and represents 2% of cases of male infertility. The most frequent phenotype is that of a normal male, with small testes, but it can also present as a male with ambiguous genitalia and even feminization. It presents with testicular atrophy and azoospermia with infertility; occasionally, it is associated with gynecomastia, obesity, or failure of testicular descent. The presence of the SRY gene translocated from the Y chromosome to the short arm of the X leads to testicular differentiation, although the lack of the region of the Y chromosome that regulates the subsequent differentiation of Sertoli cells leads to testicular atrophy. In 10-20% of cases there is no SRY gene, in which case they are accompanied by more severe abnormalities of sexual development. The diagnosis of this syndrome is cytogenetic. The differential diagnosis should be made mainly with Klinefelter syndrome. The treatment consists of the progressive administration of testosterone to avoid the consequences of the hormonal deficit. With adequate hormonal treatment, the prognosis, with the exception of infertility, in adult life is excellent.

SECOND STIMULATION IN THE SAME OVARIAN CYCLE FOR POOR PROGNOSIS PATIENTS UNDERGOING PGT-A: AN OPTION FOR A FULL-PERSONALIZATION OF THEIR TREATMENT

Alberto Vaiarel1, Danilo Cimadomo1, Gianluca Canosa2, Laura Rienzi1, Filippo Maria Ubaldi1

1Department of Neuroscience, Reproductive Science and Odontostomatology, University of Naples Federico II, Naples, Italy
2Odontostomatology, University of Naples Federico II, Naples, Italy

Table: Variables

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44-year-old male undergoing follow-up for hypogonadotropic hypogonadism, bilateral gynecomastia, and history of infertility. During the study of this pathology, it was found that the patient had female chromosomal sex, corroborated by karyotype in peripheral blood. For this reason, a genetic study is requested to identify fragments of the Y chromosome. The patient has a normal diploid endowment for the autosomes studied; Likewise, a double dose is identified for all the markers of the X chromosome. These results are compatible with the 46, XX karyotype provided. However, thorough evaluation of markers on the Y chromosome identifies the presence of a portion of the Y chromosome with a single copy. The fragment present in his genome corresponds to a distal portion of the short arm of the X leads to testicular differentiation, although the lack of the region of the Y chromosome that regulates the subsequent differentiation of Sertoli cells leads to testicular atrophy. In 10-20% of cases there is no SRY gene, in which case they are accompanied by more severe abnormalities of sexual development. The diagnosis of this syndrome is cytogenetic. The differential diagnosis should be made mainly with Klinefelter syndrome. The treatment consists of the progressive administration of testosterone to avoid the consequences of the hormonal deficit. With adequate hormonal treatment, the prognosis, with the exception of infertility, in adult life is excellent.

SECOND STIMULATION IN THE SAME OVARIAN CYCLE FOR POOR PROGNOSIS PATIENTS UNDERGOING PGT-A: AN OPTION FOR A FULL-PERSONALIZATION OF THEIR TREATMENT

Alberto Vaiarel1, Danilo Cimadomo1, Gianluca Canosa2, Laura Rienzi1, Filippo Maria Ubaldi1

1Department of Neuroscience, Reproductive Science and Odontostomatology, University of Naples Federico II, Naples, Italy
2Odontostomatology, University of Naples Federico II, Naples, Italy

Table: Variables

<table>
<thead>
<tr>
<th>Table</th>
<th>Variables</th>
<th>Grup1 (n=112)</th>
<th>Grup2 (n=80)</th>
<th>P-value</th>
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<tr>
<td>Pregnancy (%)</td>
<td>81(72.3)</td>
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<td>Clin. Pregnancy (%)</td>
<td>68(666,7)</td>
<td>45(56,3)</td>
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<td>Live birth (%)</td>
<td>56(50)</td>
<td>38(47,5)</td>
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<tr>
<td>Miscarriage rate (%)</td>
<td>14(12,5)</td>
<td>7(8,8)</td>
<td>0.49</td>
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Problem statement: A second stimulation in the same ovarian cycle (DuoStim) exploits the peculiar dynamics of human folliculogenesis to conduct two oocyte pick-ups in a short timeframe. Several groups successfully adopted this protocol with various regimens, always showing comparable oocyte/embryo competence after both stimulations. DuoStim is indeed one of the most promising unconventional stimulation protocols for the treatment of advanced-maternal-age and/or poor-ovarian-reserve (AMA/POR) women. The high prevalence of chromosomal aneuploidies can be counterbalanced, via DuoStim, by producing more blastocysts in one ovarian cycle. The main objective of this study was to assess whether an immediate second stimulation in the same ovarian cycle for AMA/POR patients obtaining ≤3 blastocysts for preimplantation-genetic-testing-for-aneuploidies (PGT-A) would be more efficient than the conventional workflow. Methods: Proof-of-concept matched case-control study. All AMA/POR patients obtaining 0 to 3 blastocysts after conventional-stimulation between 2017-2019 were proposed DuoStim. Of them, 143 couples accepted (DuoStim group) and were matched for maternal age, sperm factor, cumulus-oocyte-complexes and blastocysts obtained after the first stimulation to 143 couples who did not accept (conventional group). GnRH-antagonist protocol with recombinant-gonadotrophins and agonist trigger, ICSI, PGT-A, and vitrified-warmed euploid single-blastocyst-transfer(s) were performed. The primary outcome was the cumulative-live-birth-delivery-rate per intention-to-treat (CLBdR per ITT) within 1-year. If not delivering, the conventional group had 1 year to undergo a second conventional-stimulation. Results: After DuoStim the CLBdR was 24% (N=35/143). In the control group, instead, the CLBdR after the first attempt was 11% (N=15/143). Among the 128 non-pregnant patients, only 12 returned (185±95 days later; drop-out rate=116/128,91%), and 3 delivered. Thus, the 1-year CLBdR was 13% (N=18/143; p=0.01). Notably, 2 women delivered two LBs after DuoStim and 13 patients with a LB have other euploid blastocysts (0 and 2 in the control, respectively). Conclusion: In AMA/POR women during PGT-A, DuoStim can be envisioned as a rescue strategy suggested in progress to fully-personalize the treatment in case of poor blastocyst yield after a first stimulation. An immediate second stimulation in the same ovarian cycle might indeed prevent the drop-out and further aging between multiple failed attempts.

FERTILITY, FINANCE AND THE ADD-ON CONTROVERSIES
Lucy Van De Wiel
1Global Health and Social Medicine, King’s College London, London, UK

Problem statement: In the last decade, an increasing number of add-on technologies have been introduced into the IVF cycle. These new technologies have caused controversy within the sector, as there are divergent views about the strength of the evidence base supporting their introduction and the potential for financial conflict of interest. This study explores the reflections of fertility professionals on this topic in order to understand why these technologies are so controversial. Design: This presentation draws on 28 interviews conducted in two research projects on this topic. Semi-structures interviews were conducted with fertility professionals in the United Kingdom, the United States and the Netherlands. Fertility professionals included embryologists, medical directors, start-up founders and investors. Interviews were transcribed and thematic analysis was conducted in research teams from the University of Cambridge, University College London and the University of Manchester. Results: The analysis shows that the add-ons debate reflects foundational ideas about the changing patient-doctor relationship in clinical decision making; the role of the regulator and medical autonomy; the politics of knowledge production; and commercialisation and financialisation of the IVF sector. Conclusions: Fertility professionals shared a wide variety of rationalisations and reflections on their decisions whether or not to offer IVF add-ons. The add-on discussion touches on core aspects of professional identity and perceived meaning of medical practice. The controversies surrounding this topic reflect broader changes in the organisation of the IVF sector, in which the power relations between patients, doctors, researchers, directors, investors and shareholders are shifting.

FETO-MATERNAL MORBIDITY DERIVED FROM IN VITRO FERTILIZATION (IVF) GESTATIONS COMPARE TO SPONTANEOUS NON-IVF GESTATIONS: A RETROSPECTIVE COHORT STUDY
Alicia Vazquez Sarandeses1, Eva Felipe1,Laura De La Fuente1, Maria Carrera1, Magdalena Abad1
Obstetrics and Gynecology, Hospital Universitario 12 De Octubre, Madrid, Spain

Problem statement: to evaluate if IVF-gestations present a higher risk of developing placental insufficiency (PI) and to determine if IVF might be a risk factor ischemic placental disease (IPD).

Methods: We performed a retrospective cohort study in our tertiary-care hospital including 3982 pregnancies that resulted in a live born infant or an intrauterine fetal demise (IUFD) greater than 23 weeks of gestation, during 2019. Primary outcomes were fetal malformations, IPD and its individual components (preeclampsia, placental abruption, intrauterine fetal growth restriction(IUGR) and IUFD due to PI. As secondary outcome we stratified our analyses by gestational age according to the moment in which PI was diagnosed (preterm T-student and X2 test were used to analyze quantitative and categorical variables respectively. We used regression analyses to estimate risk ratios (RR) and 95% confidence intervals (Cls) results were adjusted by maternal age, parity and type of pregnancy (singleton or multiple). Results: 247/3982(6.2%) deliveries were conceived with IVF. We found a significant difference between IVF Vs. non-IVF regarding fetal malformations (6.2%Vs.4.6% p0.304). Multiple gestation was by itself a risk factor for malformations, preterm delivery and IPD, when compared to singleton pregnancies, regardless the type of conception. Compared to non-IVF, IVF pregnancies had greater incidence of preterm delivery and developed both preterm and term IPD, after adjustment for confounding factors and when restricting for singleton pregnancies. The risk of IPD was 3.1 times higher (95% CI, 2.1–4.7) in patients who underwent IVF compared with those non-IVF. This risk remains high for each component of IPD. We observed that IVF pregnancies imply a greater risk of pre-eclampsia (aRR 2.8 IC95% (1.6-5.2)), severe pre-eclampsia (aRR 5.2 IC95% (1.9-9.3)) and earlier development of pre-eclampsia (aRR 3.3 IC95% (1.3-5.2)) compared to non-IVF. We found a stronger association between IVF and IPD in preterm pregnancies compared to term pregnancies. Conclusion: IVF implies a higher risk of IPD and each of its individual components (PE, IUGR, IUFD). Termination of pregnancy occurs two weeks earlier in IVF gestations. The association is stronger in preterm pregnancies.
**DIAGNOSTIC PROCEDURES**

**OFFICE ENDOMETRIAL SAMPLING – ENDOSAMPLER® RESULTS**

**Carolina Carneiro**, Matilde Martins, Sara Cunha, Susana Leitão, Cristina Costa, Teresa Teles
Obstetrics and Gynecology, Centro Hospitalar Entre O Douro E Vouga, Santa Maria Da Feira, Portugal

**Problem statement:** Endometrial sampling is useful in diagnosis of endometrial pathology. It can be performed by office biopsy, hysteroscopic biopsy, or dilatation and curettage. Often, limited tissue is available and in 5-10% of cases the material collected is insufficient for diagnosis. 1,2,3. Regarding office endometrial biopsy, different devices have been developed, usually described as having the same effectiveness. Although, Dijkstra et al. found better results for Pipelle, especially in postmenopausal women. 2. The present study pretend to analyze the results obtained for Endosampler® device as an endometrial sampling. **Methods:** A retrospective analysis of women submitted to Endosampler® endometrial sampling in our hospital from February 2021-September 2021 was performed. **Results:** 55 processes were selected, 54.5% corresponded to postmenopausal women. Median age was 57 (IQR 50.0-68.0) years. Endometrial sampling indications were: abnormal uterine bleeding (AUB), follow-up of endometrial hyperplasia (EH), cervical cytology result of AGC-endometrial and suspicious endometrial thickening on transvaginal ultrasound. No statistical differences were found between indications for biopsy and unsatisfactory results or histologic diagnosis. 33% of cases, the sample was insufficient for diagnosis, being more frequently in postmenopausal women, although without statistical significance (p=0.09). The most frequent histologic result was “benign findings” associated with dysfunctional bleeding. In almost 42%, no statistical differences were found in histologic results between pre- and postmenopausal women. In our sample, two cases of endometrial neoplasia were found, both in postmenopausal women with AUB. Thirteen cases of EH were identified in biopsy, five and eight cases on post and pre-menopausal women, respectively. In thirteen cases, a definitive histological result was available. Relatively to agreement of results, two cases of neoplasia weren’t detected on biopsy and five cases of EH in biopsy weren’t confirmed at surgery. **Conclusion:** Office endometrial sampling is performed blindly, making it not suitable for focal pathology. Furthermore, unsatisfactory results appear relatively frequently, making it necessary to carry out other auxiliary diagnostic methods. In our study, the prevalence of insufficient sample was higher than usually described. Furthermore, it was much more common in postmenopausal women, which may be explained by the smaller sample collected. In conclusion, a larger sample size is necessary in order to validate these results.

**DIFFERENCES IN PRENATAL DETECTION OF BIRTH DEFECTS BETWEEN SINGLETONS AND MULTIPLES: AN OBSERVATIONAL STUDY OF MORE THAN 1.9 MILLION BIRTHS IN ZHEJIANG PROVINCE, EASTERN CHINA, DURING 2012-2018**

**Lijin Chen**1, Hong Wen2, Hai Feng Lou2, Qing Cong Kang1, Xinning Chen2, Danqing Chen2, Shankuan Zhu1, Xiaohui Zhang2
1Nutrition and Food Hygiene, School of Public Health, School of Medicine, Zhejiang University, Hangzhou, China
2Obstetrics, Women’s Hospital, Zhejiang University School of Medicine, Hangzhou, China

**Women’s Health, Women’s Hospital, Zhejiang University School of Medicine, Hangzhou, China**

**Objectives:** We aimed to compare the differences in prenatal diagnose of BDs between singletons and multiples. **Method:** Data were obtained from BDs surveillance system in Zhejiang province from 2012 to 2018. It covers all the births (live births and fetal death ≥28 weeks) born in 90 hospitals located in 30 regions. Births with BDs were followed up within 7 days after delivery. In the study, differences in prenatal detection between singletons and multiples were tested using chi-square test, and multivariate logistic regression models in consideration of confounders. The study included 25 BDs subtypes according to the International Statistical Classification of Diseases and Related Health Problems 10th Revision. **Results:** 1.60%(30,325/1,900,166)births were multiples during the study period. The total number of singletons and multiples with BDs were 49,872 and 3,324, respectively. 14.38% BDs in multiples were prenatally detected, being significantly lower than singletons (32.00%, chi2 = 452.94, P<0.001). After adjusting for time, maternal age and education, multiples with BDs had lower detection rates in total BDs (ORadj = 0.36, 95%CI: 0.32-0.40), congenital heart defects (OR adj = 0.29, 95%CI: 0.27-0.38), congenital hydrocephalus (OR adj = 0.24, 95%CI: 0.13-0.45), cleft lip with cleft palate (OR adj = 0.18, 95%CI: 0.11-0.30), congenital talipes equinovarus (OR adj = 0.50, 95%CI: 0.27-0.92), cleft lip without cleft palate (OR adj = 0.27, 95%CI: 0.14-0.50), limb reduction defects (OR adj = 0.53 adj, 95%CI: 0.37-0.77), congenital diaphragmatic hernia (OR = 0.18 adj, 95%CI: 0.06-0.58), trisomy 21 syndrome (OR adj = 0.09, 95%CI: 0.04-0.23), congenital malformation of urinary system (OR adj = 0.30, 95%CI: 0.19-0.47), other chromosomal malformations (OR adj = 0.22, 95%CI: 0.06-0.86) compared to singletons with BDs. Singletons were more easily detected before 28 gestational weeks (74.82% vs 70.08%). 73.45% BDs were detected by ultrasound, 30.02% by clinical presentation, 4.86% by chromosomal testing. **Conclusions:** Singletons with BDs are easily to be detected prenatally and earlier than multiples, particularly in CHD, chromosomal abnormalities and body-surface malformations. Ultrasound is the most frequently used method. **Disclosure:** No potential conflict of interests to declare. **Keywords:** Prenatal detection, Birth defects, Singleton, Multiple

**PREDICTING TUBAL OCCLUSION: DETECTION OF HYSTEROSCOPIC FLUID IN THE POUCH OF DOUGLAS. A PROSPECTIVE COHORT STUDY**

**Marlene Hager**1, Daniel Mayrhofer1, Christine Kurz1, Klara Beilt1, Iris Holzer1, Johannes Ott1
Clinical Division of Gynecological Endocrinology and Reproductive Medicine, Department of Obstetrics and Gynecology, Medical University of Vienna, Vienna, Austria

**Problem statement:** The evaluation of the uterine cavity is important in counseling subfertile female patients and diagnostic hysteroscopy is considered the gold standard tool. There are a number of hysteroscopic techniques for fallopian tube patency testing having been published over the last few years. One of these is a vaginal-sonographic method that detects shifts in the hysteroscopic fluid in the pouch of Douglas before and after diagnostic hysteroscopy. The aim of this study was to determine whether a change in the aforementioned fluid in the pouch of Douglas would be predictive of tubal patency. **Methods:** We included 115...
In counseling subfertile female patients, the evaluation of the uterine cavity is an important issue. Diagnostic hysteroscopy is considered the gold standard tool. Although laparoscopic chromopertubation is the gold standard tool for tubal patency testing, there are also a number of hysteroscopic techniques for the evaluation of fallopian tube patency. For example, the “Parryscope”-technique and the “flow”-technique. In the first mentioned, it is observed whether air bubbles traverse through the tubal ostia, whereas in the “flow”-technique a spiral or endometrial structures are detected. The aim of this study was to evaluate the accuracy of these two techniques for hysteroscopic assessment of tubal patency.

Methods: We included 60 patients suffering from sub fertility in our prospective randomized clinical trial. All of them underwent surgical fertility evaluation consisting of hysteroscopy and laparoscopy at the Clinical Division of Gynecological Endocrinology and Reproductive Medicine at the Medical University of Vienna. Hysteroscopy was performed and either the “Parryscope”- or the “flow”-technique was performed for tubal assessment, before laparoscopic chromopertubation was conducted. The primary outcome was the accuracy of these two techniques in comparison to the gold standard of laparoscopic chromopertubation.

Results: The prediction of tubal patency was possible in both study groups (p=0.05), but the “Parryscope”-technique could achieve a higher sensitivity (90.6%, 95% CI: 85.1-96.4%) and specificity (100%, 95% CI: 96.4-100.0%) than the “flow”-technique (sensitivity: 73.7%, 95% CI: 61.7-96.4, specificity: 96.4%, 95% CI: 75.8-91.8). An increased risk for a false abnormal result – no hysteroscopic fluid shift in case of uni- or bilateral tubal patency – was given when intracavitary abnormalities (odds ratio, OR, 0.038; p = 0.001). 1.757 patients (1.3%) showed a hysteroscopic fluid shift and had bilateral occlusion in laparoscopic chromopertubation (sensitivity of a present fluid shift for uni- or bilateral patency 85.1%, 95% CI: 81.7-99.9, specificity: 96.4%, 95% CI: 75.8-91.8).

Conclusion: If there is no hysteroscopic fluid shift, our method is a sensitive test for tubal occlusion and the patient should be sent to further testing. However, if there is an increase in fluid in the pouch of Douglas after hysteroscopy, this is sensitive and specific for uni- or bilateral tubal patency.

Hysteroscopic Assessment of Tubal Patency: A Randomized Comparison Between the Flow and Parryscope Techniques

Marlene Hager1, Christine Kurz1, Daniel Mayrhofer1, Klara Beil1, Iris Holzer1, Johannes Ott1
Clinical Division of Gynecological Endocrinology and Reproductive Medicine, Department of Obstetrics and Gynecology, Medical University of Vienna, Vienna, Austria

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Conclusion: If there is no hysteroscopic fluid shift, our method is a sensitive test for tubal occlusion and the patient should be sent to further testing. However, if there is an increase in fluid in the pouch of Douglas after hysteroscopy, this is sensitive and specific for uni- or bilateral tubal patency.
COMPARISON OF FROZEN SECTION WITH PARAFFIN BLOCK PATHOLOGICAL EXAMINATION RESULTS IN PATIENTS WITH GYNECOLOGICAL MALIGNANCIES AT PROF. DR. R.D. KANDOU GENERAL HOSPITAL
Hanna Feby Imedla Poluan1, Bismark Joel Lahid1, Frank Mitchell Marvel Wagey
1Department of Obstetrics and Gynecology, Faculty of Medicine Sam Ratulangi University - Prof. R.D. Kandou General Hospital Manado, Manado, Indonesia

Problem statement: Gynecological malignancy remains a major health problem in women. Paraffin block pathological examination is considered as the gold standard for detecting gynecological malignancies. Another alternative pathologic examination tool, frozen section / vries coupe (VC), can also be performed for faster results. A study conducted by Amila R, et. al. (2019) at Dr. Mohammad Hospital Palembang showed that frozen section examination was accurate enough to differentiate malignant ovarian tumors, but not many studies have been conducted, specifically in Indonesia, to compare frozen section examination with paraffin block in terms of accuracy, sensitivity, and specificity. The aim of our study is to compare between frozen section and paraffin block examination results in patients with gynecological malignancies at Prof. Dr. R.D. Kandou General Hospital in 2020.

Method: This research was a descriptive analytic study. The number of study samples was 37 samples consisting of patients of PE with fetal congenital heart defects, with the inclusion criteria those who were admitted to a tertiary center between 2018-2020. Multiple gestations were excluded from our cohort. We sought for cardiac abnormalities detected earlier and could be prevented more severe complications.

Results: A total number of 37 samples were collected and analyzed using Microsoft Excel software. The aim of this study was to determine whether frozen section examination was accurate enough to differentiate malignancies. The results showed that the sensitivity and specificity of frozen section examination were 97.36% and 97.63%, respectively. The accuracy of frozen section examination was 98.58%.

Conclusion: In our study, frozen section examination was accurate enough to differentiate malignancies. However, further studies are needed to confirm these findings.

FETOMATERNAL MEDICINE
PREECLAMPSIA AND FETAL CONGENITAL HEART DEFECTS – SHOULD WE ROUTINELY SCREEN?
Ana Beatriz Almeida1, Daniela Goncalves1, Antonio Braga1, Ines Sousa1, Tiago Meneses Alves1, Jorge Braga1
1Obstetrics Department, Centro Materno-Infantil Do Norte, Centro Hospitalar Universitário Do Porto, Porto, Portugal

Problem statement: To compare populations with isolated preeclampsia (PE) and PE complicated with fetal congenital heart defects (CHD). Methods: Retrospective study including all singleton pregnancies complicated with PE admitted to a tertiary center between 2018-2020. Multiple gestations were excluded from our cohort. We sought for perinatal CHD at three moments: antenatally (fetal ultrasound); through cardiac examination at birth; and postnatally, by looking for pediatricians’ cardiology appointments into infants’ files. If no cardiac abnormalities were identified at least six months postpartum, CHD were excluded. Two groups were then considered: PE both with (G1) and without (G2) fetal/newborn’s CHD. A descriptive analysis and parametric tests were performed. Statistical significance considered was p<0.05.

Results: Out of 173 pregnant women with PE, 164 met the inclusion criteria, 13 and 151 cases in G1 and G2, respectively. Prevalence of CHD was 7.9%, declining to 5.5% if we exclude 4 cases of patent foramen ovale (PFO) diagnosed before 2 years-old. Septal defects, PFO after 2 years-old, dilation of cardiac chambers and aortic isthmus narrowing were the main CHDs observed. Comparing groups of PE, both mean maternal age (35,5 years in G1 and 32,5 years in G2, p=0,08) and rate of assisted reproductive technology (15.4% in G1 and 3.3% in G2, p=0,08) were higher if CHDs were diagnosed. In G1, diagnosis of PE was made one week earlier (32 vs 33 weeks) and increased rates of early PE, i.e. before 34 weeks, were found (46,2% vs 34,4%). However, PE in prior gestation or history of chronic hypertension was more frequent in PE without perinatal CHD group. Performance of fetal echocardiograms during pregnancy was significantly lower in G1 than in G2. Conclusions: PE complicated with CHD has a lower maternal age, higher rates of assisted reproductive technology and increases the risk of premature delivery. Early PE diagnosis and increased rates of early PE may also be related to CHD. These results should be validated in a larger sample.
PERSISTENT CAESAREAN SCAR PREGNANCY: A CASE REPORT

Luisa Andrade Silva1, Margarida Pavao1, Joana Bernardeco1, Rubina Mendonça1
Servico De Ginecologia E Obstetricia, Centro Hospitalar De Setubal, Setubal, Portugal

Problem statement: Caesarean scar pregnancy (CSP) is a late complication of caesarean section. Its incidence has increased worldwide in recent years due to the increasing number of caesarean deliveries and the advances in imaging. An early diagnosis and prompt management and follow up are essential to avoid catastrophic complications, such as bleeding and uterine rupture that can end in a hysterectomy. Currently there is no consensus on the best management for CSP, and various surgical, medical, and minimally invasive therapies have been described.

Methods: This is a case report, whose aim is to present the importance of recognising and managing properly a caesarean scar pregnancy. Results: A 35-year-old woman, G4P2 (2 caesarean sections 11 and 18 years prior), with history of depression and anxiety, presented herself at a public health and nursing center in PE. She then was referred to our center.

Conclusion: We present a rare case of a 21-year-old secundigravida, with an uncorrected TOF, major aorto-pulmonary collateral arteries (MAPCAs), and history of successful vacuum-assisted vaginal delivery in previous pregnancy. She was seen for the first time at the Ob/Gyn outpatient clinic of Dr. Sardjito Hospital at 6 weeks of gestational age (GA). We immediately arranged a multidisciplinary clinical conference to assist her pregnancy, co-managed with cardiologist and anesthesiologist. The pregnancy was carefully monitored, she was planned to have fetal screening at 20-22 weeks of GA, earlier lung maturation at 26-28 weeks of GA, and delivery at 32 weeks of GA. Overall, the pregnancy proceeded smoothly, she tolerated the pregnancy quite well without any specific medication. Upon admission for delivery, the patient was stable, no chest pain and no shortness of breath was observed, her heart rate (HR) was 78 beats/min, oxygen saturation (SpO2) was 82-92%, and hematocrit was 46.8%. A murmur was clearly heard at her left 3rd intercostal region along the parasternal border. The ultrasound examination showing single fetus, longitudinal lie, cephalic presentation, and estimated fetal weight of 1596 grams. She was managed with a vacuum assisted vaginal delivery with Misoprostol for labor induction at Intensive Care Unit (ICU), supported by Epidural Labor Analgesia (ELA). Result: After 16 hours, a female baby was born by a vacuum-assisted vaginal delivery, with body weight 1478 grams and Apgar score 7/8. Intraterine Contraception Device was chosen as contraception and was placed immediately after delivery.

Conclusion: Careful monitoring and multidisciplinary team involving an obstetrician, especially maternal-fetal medicine sub-specialist, cardiologist, anesthesiologist may improve the outcomes in women with uncorrected TOF. Furthermore, expert care should be followed by scrupulous counseling regarding any possible maternal and neonatal outcome.

COVID-19 PANDEMIC AND ITS IMPACT ON PERINATAL OUTCOMES BETWEEN SYMPTOMATIC AND ASYMPTOMATIC WOMEN

Inas Babic1, Faten Somali, MD1, Sana Aljuhani, MD1, Sahar Baesa, MD1, Inaam Alhabib, MD1, Ebtisam Alahmery, MD1, Magdy Omer, MD1, Khalid Alkhaliha, MD1
Department of Obstetrics & Gynecology, Prince Sultan Military Medical City, Riyadh, Saudi Arabia

Introduction: Coronavirus disease 2019 (Covid-19) has been increasing among pregnant women worldwide. Its impact on maternal, fetal and neonatal health is still scarce in the published literature. As routine Covid-19 prenatal screening has been established for all women requiring hospitalization, it is not clear whether symptomatic women carry worse pregnancy outcomes than those without symptoms. We aimed to analyze perinatal outcomes between symptomatic and asymptomatic women admitted to our center.

Materials and Methods: A single center study was carried out for fourteen months. All pregnant women with confirmed Covid-19 infection were enrolled and their perinatal outcomes were analyzed in two groups based on whether they were symptomatic or not. The primary outcomes were composite adverse fetal, neonatal, and maternal outcomes and their comparison between study groups.

Results: Out of 209 tested Covid-19 positive women, 62 (30%) presented with one or more infection related symptoms. Symptomatic women were older, multiparous, carried ≥ 1 comorbidity condition and attained infection at earlier gestational age (44% vs 28%), (82% vs 69%), (28% vs 16%) and (34 vs 36 weeks) (p<0.05), when compared to asymptomatic study group respectively.

Maternal composite adverse outcomes were higher in symptomatic group and showed either one or more outcomes: positive chest radiological findings, requiring
hospitalization with oxygen supplementation or maternal death (8% vs 0.7%) (p<0.05). Composite fetal and neonatal adverse outcomes: miscarriage, fetal or neonatal death, admission to neonatal intensive care unit and neonatal Covid-19 infection were not statistically significant (p<0.05) between symptomatic and asymptomatic women. Conclusion: COVID-19 infection among symptomatic pregnant women may carry higher risk for adverse maternal outcomes. It may be associated with their advanced age and comorbid conditions. Maternal infection associated symptoms per se, likely do not pose an increased risk for adverse fetal or neonatal outcomes.

MATERNAL-FETAL OUTCOMES IN OBESE WOMEN – 2 YEARS EXPERIENCE
Mafalda Barros1, Patricia Amaral1, Ines Santos1, Liliana Perpetuo1, Ana Vanessa Santos1, Ana Cristina Costa1, Antonia Nazare1
Obstetrics and Gynecology, Prof. Doctor Fernando da Fonseca Hospital, Lisbon, Portugal

Problem statement: Obesity is a major public health concern and its prevalence in reproductive-age women has been rapidly increasing over the past few decades. Obesity can be classified in three types – table 1.

<table>
<thead>
<tr>
<th></th>
<th>Body Mass Index (BMI) kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type I</td>
<td>30-34.99</td>
</tr>
<tr>
<td>Type II (severe obesity)</td>
<td>35-39.99</td>
</tr>
<tr>
<td>Type III (morbid obesity)</td>
<td>over 40</td>
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Table 1: Obese pregnant women are at increased risk of developing major maternal and perinatal complications such as gestational diabetes (GD), hypertensive disorders of pregnancy (HDP) including pre-eclampsia (PE). Also, the need of labour induction and dystocic deliveries are higher among these women. Methods: Retrospective descriptive study based on the analysis of data of pregnant women with type III obesity, who attended to at least one high-risk pregnancy appointment at the Professor Doutor Fernando Fonseca Hospital (Portugal, Lisbon) in the last two years (2019-2020). Statistical analysis through Microsoft Excel.

Results: In this period, there were 156 cases of type III obese pregnant women whose average age was 31 years old (19-46). Regarding personal history, 18.6% had chronic hypertension and 1.8% were diabetic. Mean BMI at 1st trimester was 44.3 (40.2-58.5) and 44.9 at 3rd trimester (40-71.5). Concerning pregnancy complications, there were 43 cases of GD (27.7%), 22 cases of HDP (14.2%) and 18 of PE (13.5%). The prevalence of these complications was higher with increasing BMI, particularly for HDP. Mean gestational age at delivery was 39.3 weeks, with 12 preterm deliveries (8%) and 1 stillbirth at 35 weeks gestation. Eutocic delivery occurred in 59 cases (39.6%) and CST delivery in 72 (48.3%), 18 of which due to induction failure (25%) and 5 due to suspected macrossomia (6.9%). 15 newborns (11%) were considered large for gestational age (LGA), of whom 8 (53.3%) were born to mothers with GD. Among LGA newborns, there was 1 case of shoulder dystocia (6.7%) and 2 cases of neonatal hypoglicemia (13.3%). Conclusion: The results of our study reflect the ones found in the literature. It is, however, important to highlight the importance of a multidisciplinary approach to prevent the excessive weight gain in this population in order to prevent poor obstetric outcomes.

WHEN PREGNANCY DELAYS CANCER DIAGNOSIS: A CASE REPORT
Olivia Anne Cassar1, Alison Micallef Fava1, Tiziana Farruga1, Mark Sant2
Obstetrics and Gynecology Department, Mater Dei Hospital, Tal-Qroqq, Malta

Problem statement: Cancers diagnosed during pregnancy and in the immediate post partum period are only seen in one in 1000 women, however frequency might increase due to the trends in delayed childbearing. The main reason for this is that many early signs of cancer can mimic pregnancy symptoms and so fail to get aggressively investigated as they would in the non pregnant woman. Methods: The case we present is of a previously healthy 33 year old woman in her second pregnancy. Note was made of a slight microcytic anaemia at booking but this was presumed to be due to her condition and in fact improved with iron supplements. The course of the pregnancy was uneventful until around 36 weeks when her blood pressure rose and blood tests including a liver profile were organised. These were deranged and since the bile acid levels were also slightly elevated the patient was suspected to have early pre-eclampsia or cholestasis and was induced and delivered at 38 weeks. On presenting for her post natal visit six weeks after, she was complaining of general unwellness and marked fatigue. Primary debulking surgery was carried out seven weeks post partum and a transverse colon tumour was excised at hemicolecotomy. The plan after this was to deliver chemotherapy with regular imaging to monitor progress. The patient was undergoing her third cycle at the time of writing. Conclusion: This tragic case demonstrates the pitfalls in diagnosing cancer during pregnancy. Both the patients and the medical team themselves can easily blame the pregnancy for many of the telltale symptoms of malignancy which would definitely not go unnoticed outside of this period. A high index of suspicion is needed when interpreting tests taken during pregnancy as this might help with earlier detection of certain cancers and hence earlier resort to treatment and eventually better prognosis.

ADVANCED MATERNAL AGE: A CROSS-SECTIONAL STUDY IN A TERTIARY CARE CENTER
Ines Costa Santos1, Patricia Amaral1, Mafalda Barros1, Liliana Perpetuo1, Ana Paula Santos1, Elsa Landim1, Ana Cristina Costa1, Antonia Nazare1
1Department of Obstetrics and Gynecology, Hospital Professor Doutor Fernando Fonseca, Lisbon, Portugal

Problem statement: Pregnancy in older women has become more prevalent over the last few decades due to socioeconomic factors and advances in fertility care. Advanced maternal age (AMA) is classically defined as pregnancy in women over 35 years at due date, although some studies refer it as over 40 years old. However, it is considered a risk factor for many maternal and perinatal adverse outcomes. Methods: Retrospective descriptive study based on the analysis of data of pregnant women who gave birth in the first trimester of 2021 at the Professor Doutor Fernando Fonseca Hospital (Lisbon, Portugal). Statistical analysis through Microsoft Excel®. Results: AMA women constituted 253 (25.3%) of the total deliveries in this period, with a mean age of 38. There were identified 8 in vitro fertilization (IVF) and 5 twin pregnancies.Regarding obstetric history, 38% had history of miscarriage and 17.8% were nulliparous. Concerning pregnancy complications, there were 49 cases (19.4%) of diabetes during pregnancy and an incidence of 14.2% of Hypertensive Disorders of Pregnancy (HDP), including 17 cases (6.7%) of PE/Hellp syndrome and 20 cases (7.9%) of chronic arterial hypertension. There were 3 cases (1.2%) of placenta previa and 5 cases (2%) of placental abruption.Perinatal outcomes included 34 (13.4%) preterm deliveries, with 35 (13.8%) light for gestational age newborns, 5 fetal deaths and 3
neonatal deaths. More than half (54.2%) had access to some kind of prenatal screening test, but merely 47 women were submitted to amniocentesis. There were 2 births with Down syndrome, both with prenatal diagnosis, 8 cases (3.2%) of congenital abnormalities, 50% of those being cardiac defects. The caesarian section rate (49%) was found to be higher in AMA than global rate (38.5%). Labor was induced in 72 (28.5%) cases. Conclusion: The incidence of AMA pregnancies is rising consistently over the years, representing in our center more than a quarter of all births in this first semester. Our results are consistent with the ones found in the literature. Although AMA is a known poor prognostic factor in pregnancy and perinatal outcomes, there remains no consensus opinion for the management of pregnancy in this particular risk group.

POST-PARTUM OVARIAN VEIN THROMBOSIS COMPLICATED WITH PULMONARY EMBOLISM AND INFECTION

Mariana de Almeida¹, Ana Rita Mira, Ana Rita Mira¹, Matilde Ferreira De Almeida, Matilde Ferreira De Almeida¹, Manuela Almeida, Manuela Almeida¹, Alcides Pereira, Alcides Pereira¹

¹Gynecology and Obstetrics, Hospital Garcia De Orta, Almada, Portugal
²Pneumology, Hospital Garcia De Orta, Lisbon, Portugal

Problem Statement: Ovarian vein thrombosis (OVT) is a rare condition that can occur during puerperium, with higher incidence after cesarean sections. Attempted diagnosis and treatment are crucial, since when left untreated OVT may progress for inferior vena cava resulting in pulmonary embolism (PE) and sepsis. This report describes a case of postpartum OVT, which complicated with Pulmonary infarction with subsequent infection in a woman without known major risk factors. Methods: Case report and literature review. Results: A 30-year-old healthy woman was admitted to hospital with dyspnea and pleuritic chest pain 5 days after an uncomplicated cesarean section, performed due to breech presentation. Upon admission she was febrile and tachycardiac and blood tests revealed elevated inflammatory markers and D-dimers. A CT pulmonary angiography was performed revealing an inferior right lobe segmental embolism with a concomitant consolidation area and a homolateral 15 mm pleural effusion. Assuming the diagnosis of PE, we initiated therapeutic anticoagulation with low-molecular-weight heparin (LMWH). The patient progressed with fever and elevation of inflammatory markers. Therefore, to search for a pelvic septic thrombosis, an abdominal-pelvic CT-Scan was performed and showed right ovarian vein thrombosis. Despite appropriate treatment for pelvic septic vein thrombosis (Ceftriaxone, Metronidazole and LMWH), the patient maintained daily fever peaks and inflammatory markers rise. With suspicion of infection of the pulmonary infarcted area, we changed antibiotics to piperacillin/tazobactam and performed a thoracoscopy with debridement of empyema areas. After that, the clinical evolution was favorable, and the patient was discharged after 21 days of antibiotic therapy. The patient continued anticoagulation for 6 months. Conclusion: Every woman who is pregnant or in the postpartum period has a higher risk for thrombosis. Even though this patient didn’t have any major risk factor for thrombosis, except for post-cesarean section, she presented with a severe venal thrombotic pathology. As the symptoms may be subtle, high clinical suspicion is needed for an accurate diagnosis and prompt initiation of anticoagulation, which is crucial to reduce mortality.

TRANS-DUODENAL DRAINAGE OF LARGE PANCREATIC PSEUDOCYST IN PREGNANCY

Frederick Eruo¹, Shahrzad Ghazanifar-Torabi², Al Lore¹, Theodore Jones¹

¹Department of Obstetrics and Gynecology, Beaumont Hospital, Dearborn, USA
²School of Medicine, University of Connecticut, Hartford, USA

Background: End-stage renal disease (ESRD) is diagnosed when the glomerular filtration rate (GFR)
15ml/min per 1.73 m2 or if the patient requires dialysis (hemodialysis or peritoneal dialysis) with consideration of renal transplantation. Women with ESRD often have infertility, however, when pregnancy occurs, there is increased risk for preeclampsia-eclampsia, preterm delivery, neonatal intensive care unit (NICU) admission among other morbidities with possible fetal or maternal mortality. Case: A 33-year-old G4P2012 with past medical history of peripartum cardiomyopathy and ESRD requiring hemodialysis (HD) presented to the emergency department for a clotted hemodialysis catheter. She was found to have viable intrauterine pregnancy by 7-week ultrasound. At the onset of pregnancy, the patient was oliguric and undergoing HD treatment three times per week. Blood pressures remained in the severe ranges throughout the pregnancy, requiring multiple antihypertensive medications. Several specialists were involved in her care including maternal-fetal medicine (MFM), cardiology, nephrology, neonatology, and hematology. Her HD sessions were increased to five times per week, totaling 20 hours, by the second trimester. The patient was admitted to the hospital at 25 weeks and 2 days gestation secondary to chronic hypertension with superimposed preeclampsia with severe features. Blood pressures on arrival ranged from 180-200s/100s-110s. The patient required magnesium sulfate for seizure prophylaxis and multiple parenteral antihypertensive medications. Urgent cesarean section was performed at 27 weeks and 3 days of delivery with blood urea nitrogen (BUN) 917g admitted to NICU. In the postpartum period HD treatment was decreased to three times per week. Discussion: Management of dialysis patients should include preconception/contraceptive counseling to address appropriate medications to use or avoid. If pregnant, ESRD patients require optimization of maternal status including stabilization of blood pressure, keeping BUN 15mg, maternal hemoglobin 10-11g/L, measurement of serum calcium, phosphorus and parathyroid hormones/vitamin D possibly every trimester, and recommended protein of 1.5 to 1.9g/kg per day and taking aspirin for preeclampsia prevention. A treatment goal of 20 hours per week of hemodialysis is also recommended to improve fetal outcomes. Management of pregnant ESRD patients requires a multidisciplinary approach involving several specialists to optimize maternal and neonatal outcomes. Whereas gastroschisis does not have membranous covering. Case report: A 22 year old G3P1011 at 15 weeks gestation was seen for initial prenatal care. She had a previous normal live birth and a spontaneous abortion at 8 weeks gestation. She had no personal or family history of birth defects. Her ultrasound showed a viable singleton intrauterine pregnancy of appropriate size for gestational age but had gastroschisis present. No other fetal anomalies noted. Antenatal fetal monitoring including growth ultrasound at appropriate intervals between visits confirmed previous findings with appropriate interval growth. Consultation with maternal-fetal medicine (MFM), pediatric surgeon and neonatology team. The patient delivered via urgent cesarean section at 36 weeks and 5 days’ gestation due to preterm premature rupture of membranes and reassuring fetal heart trace. The bowel was wrapped in sterile saline dressings and had surgery to repair the defect soon after. Baby was on total parenteral nutrition initially and gradually advanced to formula feeds and finally discharged home in stable condition on postoperative day 39. Discussion: This case had a benign and stable postoperative course and satisfied parents. Early monitoring during pregnancy allows for planning and making the family aware of possible complications that may arise. It allows for the surgery to take place immediately following delivery to decrease the likelihood of infection and increase the success rate of the procedure. Currently, the repair of gastroschisis can be done as a single primary repair, or if required, can be a step-wise repair if there is difficulty at the time of the initial surgery. Early antenatal diagnosis of gastroschisis provides opportunity to be ready for emergent surgery immediately following delivery to reduce postoperative complications. It also allows for early antenatal transfer of care to a tertiary medical center with specialists in MFM, pediatric surgery and neonatal intensive care.
first to the second delivery by using data from the Medical Birth Registry of Norway. We included all women with two singleton deliveries at gestational week 28 or beyond during the years 1970-2019 in Norway, a total of 764,203 women. Our outcome measure was change in mean birthweight from the first to the second delivery. Inter-pregnancy interval was defined as the time from a first delivery to onset of a new pregnancy. **Results:** Mean birthweight increased from the first to the second delivery by 151 grams (g), from 3461g to 3612g. The increase was highest in children born after 30 years and 35 years at first delivery. In women with a first child from child, mean birthweight increased by 984g to the second delivery, but we found no relation of birthweight with inter-pregnancy interval. Our results are adjusted for year of first delivery, maternal country of birth, maternal age, new father in second pregnancy, and maternal diabetes or hypertension in first pregnancy. **Conclusion:** We found that offspring birthweight at second delivery was highest if the inter-pregnancy was less than six months. Our results do not discourage a short interval pregnancy.

**THROMBOCYTOPENIA AND POSTPARTUM HEMORRHAGE IN A PREGNANT PATIENT WITH COVID-19 INFECTION: A CASE REPORT**

**Problem statement:** Thrombocytopenia associated with COVID-19 during pregnancy has several important implications such as increasing the bleeding risk of performing invasive procedures. **Methods:** We present a case of a pregnant who was admitted by myalgia and fever, tested positive for COVID-19, and was found to have severe thrombocytopenia on routine complete blood count collected at the time of admission. **Results:** A 37-year-old, primigravid and referred to emergency room at 32 weeks and 3 days of gestation with myalgia and fever. The routine complete blood count upon admission was: hemoglobin 10.7 g/dL, and a platelet count of 35 x 10^9/L (120 x 10^9/L at second trimester). No changes in liver function tests. She was found to be positive on COVID-19 testing. She initiated dexamethasone 6 mg once daily. In the second day, 35 x 10^9/L of a platelet count and she felt decreased fetal movements. Fetal heart rate tracing showed variable decelerations and after a prolonged deceleration, it was decided for immediate cesarean delivery. One unit of pooled platelets was administered. In the third day, she had abdominal pain on palpation and decompression. The computed blood count was: hemoglobin 5.1 g/dL, and a platelet count of 41 x 10^9/L. Abdominal ultrasound with free fluid in the abdominal cavity. It was done an exploratory laparotomy that showed a huge hemoperitoneum in the left parametrical groove, and it was not possible to identify the origin. The patient received two units of packed red blood cells and one unit of pooled platelets. In the fourth day, hemoglobin was 8.1 g/dL and a platelet count of 45 x 10^9/L. Administered immunoglobulin 1g/kg and dexamethasone 8 mg/day. In the fifth day, the patient presented with dyspea and the computed tomography chest showed a focus of consolidation with ground-glass density compatible with pneumonia caused by COVID-19. She started noninvasive ventilation with Helmet. She continued to improve clinically and was discharged home on day 13. At the time of discharge, the patient’s platelet count was 64x10^9/L. **Conclusion:** A rapid recognition of severe thrombocytopenia, if present in mildly symptomatic patients with COVID-19, is crucial for delivery of safe.
highlighted. At this point, it was decided to hospitalize the patient for blood transfusion, maternal surveillance and stabilization, and investigation of the condition. The patient received 10 units of erythrocyte concentrate during 10 days of hospitalization. After an abdominopelvic ultrasound, upper digestive endoscopy, colonoscopy with biopsies and magnetic resonance imaging, she was diagnosed with an ulcerated bleeding colon adenocarcinoma with diffuse liver metastatization. The patient chose to medically terminate the pregnancy, which was uneventful, and started chemotherapy after evaluation in an Oncology appointment. **Conclusion:** This case highlights the importance of evaluating the pregnant woman’s anemia as an all. We should not assume physiological anemia or iron deficiency in all cases. In bleeding cases we should search for the source, after exclude obstetric/gynecological complications. Furthermore, it should be considered that, despite remaining rare, the incidence of cancer in pregnant women has increased, which is why is also an important diagnosis to consider.

HETEROTOPIC PREGNANCY – A CLINICAL CASE
Joana Figueiredo1, Catarina Soares1, Catarina Vasconcelos2, Jorge Ribeiro2

**Problem statement:** A heterotopic pregnancy occurs when there are two simultaneous pregnancies with different implantation sites, the majority being an intrauterine pregnancy and a tubal pregnancy. Heterotopic pregnancy is a rare entity with an incidence of 1 in every 30,000 pregnancies. However, this number has been increasing due to medically assisted reproduction techniques. **Methods / Results:** We present a case of a 31-year-old woman, with a spontaneous pregnancy, who went to the emergency department due to mild vaginal bleeding without associated pain. During physical examination there was no vaginal bleeding and an ultrasound showed a gestational sac in utero compatible with approximately 5 weeks. She was discharged with an indication to maintain surveillance. About 3 weeks later, she returned to the emergency department due to severe abdominal pain, vomitting and general malaise. Physical examination revealed marked skin and mucosal pallor, blood pressure of 55/33 mmHg, absent vaginal bleeding and palpation of the right iliac fossa with pain. The ultrasound showed a gestational sac in utero with an embryo with cardiac movements compatible with 8 weeks and a retrouterine heterogeneous mass. At this point, it was decided to hospitalize the patient, remembering this entity and its possible consequences before it causes hemodynamic instability. **Conclusion:** The clinical case shows the importance of remembering this entity and its possible consequences when evaluating an early pregnancy. It is always necessary to carry out a careful evaluation of the adnexa, especially in early pregnancy. It is important to identify this entity early before it causes hemodynamic instability.

LIFE-THREATENING HAEMORRHAGE POST UTERINE ASPIRATION IN A FIRST TRIMESTER PREGNANCY LOSS
Joana Figueiredo1, Mariana Gamito2, Maryjo Branquinho2

On the second day of hospitalization, the patient was discharged on the fifth postoperative day, stable and with anemia and IRBP levels compatible with approximately 5.6mm embryo without heart activity. Due to medical management failure, it was decided to hospitalize the patient for a new medical management when it became apparent that it was not possible to achieve a viable intrauterine pregnancy. Later, pathological anatomy confirmed the ectopic pregnancy in the excised tube and, therefore, a heterotopic pregnancy.

LIFE-THREATENING HAEMORRHAGE POST UTERINE ASPIRATION IN A FIRST TRIMESTER PREGNANCY LOSS
Joana Figueiredo1, Mariana Gamito2, Maryjo Branquinho2

**Problem statement:** Early pregnancy loss, which occurs in the first trimester (up to 12+6 weeks), is the most common type of miscarriage. Expectant, medical, or surgical management are adequate options when retained products of conception are present. Even when more conservative management is adopted, uterine evacuation could be necessary if retained tissue persists. Acute haemorrhage after first-trimester uterine vacuum aspiration is uncommon and can result from uterine atony, cervical or vaginal lacerations or retained tissue. Abnormal placentaion is a rare cause of severe bleeding but can be present in the late first trimester. This case must be considered in the context of a prior caesarean delivery or other uterine surgeries. **Methods:** We report a case of acute uterine bleeding with hypovolemic shock after a first trimester uterine evacuation, not reversible with standard therapies measures. **Results:** A 37-year-old woman with prior caesarean delivery and two miscarriages, presented with an early pregnancy loss. The ultrasound revealed an intrauterine pregnancy with a gestational sac containing a 5.6mm embryo without heart activity. Due to medical management failure, it was performed a uterine vacuum aspiration with complete removal of retained tissue under ultrasound control. In the end of this procedure, a heavy uterine bleeding with hemodynamic instability was noted. Fluid resuscitation and blood product replacement was initiated. Implementation of primary treatment measures: uterine massage, rectal misoprostol, oxytocin perfusion failed to control the haemorrhage. The next step was intrauterine tamponade with a 30cc standard Foley catheter with bleeding control and progressive clinical stabilization. The patient was transferred to intensive care unit. Postoperatively remains hemodynamically stable, with catheter removal 42 hours later and clinical discharge at day 5. **Conclusion:** Uterine tamponade can be an effective intervention for controlling haemorrhage refractory to massage and uterotonic and should be considered early in this process. The uterine oxytocin receptor concentration is low in first trimester and therefore oxytocin perfusion is contradictory. A Foley catheter is a very available device that can be used in this situation. Abnormal placentaion or a small arterial laceration could be the reason of this massive hemorrhage in our patient. The uterine tamponade avoided uterine embolization or hysterectomy.

FACTORS RELATED TO MATERNAL MORTALITY WITH COVID-19 INFECTION
Annisa Fitriani1, Ahsanuddin Attamimi2, Irwan Taufiqur Rachman2

We found that the levels of Dimerized plasmin fragment D (D-dimer), C-reactive protein (CRP) and lactate dehydrogenase (LDH) were significantly higher in non-survivals on admission: D-Dimer  500 mg/L (CRP) and lactate dehydrogenase (LDH) were significantly higher in non-survivals on admission: D-Dimer 500 mg/L (449 [188–30.000]; p 0.01), CRP 5 mg/L (62 [3–200]; p 0.01), LDH 190 U/L (391 [188–1815]; p 0.01) while...
interleukin-6 (IL-6) did not show a significant different levels. In addition, the radiologic parameter had the greatest value, which means that the radiologic parameter is very influential on the patient’s status. Furthermore, patients with pneumonia conditions are 28 times more likely to die than patients with normal radiologic findings. Then followed by other parameters: IL-6, LDH, and CRP, respectively. While the D-dimer parameter did not show a significant effect on the progression of pregnant patients with COVID-19 infection to a mortal condition.Conclusion: There are no specific therapeutic agents for coronavirus infections are available; therefore, the early identification and in-time treatment of severe cases are very important for managing these patients.

Keywords: maternal mortality, COVID-19 infection

Conflict of Interest: There are no conflicts of interest.

ASSOCIATION OF NEUTROPHIL TO LYMPHOCYTE AND PLATELET TO LYMPHOCYTE RATIOS TO GESTATIONAL DIABETES MELLITUS: PREDICTIVE VALUE FOR EARLY DIAGNOSIS DURING FIRST TRIMESTER PREGNANCY. OBJECTIVES: PATIENTS SEEN AT A TERTIARY HOSPITAL. A PROSPECTIVE STUDY

Laura Sophia Formantes1, Ruth Judith Gay Cristobal1

Obstetrics and Gynecology, Mariano Marcos Memorial Hospital and Medical Center, Batac, Philippines

Background: GDM has both detrimental maternal and fetal effects. Early screening, diagnosis and management is crucial. Availability and affordability of glucose tests pose a problem in rural, far-flung and poor areas. The ease of doing and compliance of patients with glucose tests warrant a simpler and cheaper option. Complete blood count (CBC), specifically neutrophil to lymphocyte and lymphocyte to platelet ratios (NLR, PLR) have been shown to be correlated with GDM. Objectives: This study aimed to establish a correlation and strengthen the utilization of inflammatory and hematologic ratios in predicting GDM during the first trimester among Filipinos. Methods: A prospective cohort approach with 300 patients enrolled in the study. Initial CBC and 75g OGTT results were gathered during the 1st trimester. Subsequent 75g OGTT during their 24-28th week age of gestation were documented and classified according to IADPSG guidelines. Discussion and Conclusions: A strong correlation was found between NLR and PLR and the early detection of GDM. The optimal cut off points based on ROC Curve Analysis are 3.29-3.42 for NLR and 985.19-1016 for PLR. The sensitivity, specificity, positive predictive value, negative predictive value, positive likelihood ratio and negative likelihood ratio were as follows: 0.38, 0.846, 0, 0.588, 0.542, 1.425 and 0.845 for NLR and 0.82, 0.24, 0.519, 0.571, 1, 0.79 and 0.75 for PLR. Findings of the study suggest that both NLR and PLR can be important markers for GDM screening in the 1st trimester.

ADVANCED MATERNAL AGE AND OBSTETRIC OUTCOMES ACCORDING TO PARITY

Lilia Frada, Ana Rita Ribeiro1, Ariana Barbbara1, Miguel Penas da Costa1, Elisa Rosin1, Policarpo Pina1, Fernando Fernandes1

Obstetrics and Gynecology, Hospital Do Espírito Santo - Évora, Portugal

Problem statement: The identification of high-risk pregnancies is critical. Advanced maternal age has been systematically considered a risk factor and it’s impact seems to be influenced by parity. This study aims to compare obstetric outcomes among women below 40 years of age in nulliparous and multiparous women. Methods: Retrospective consult of the records of all patients with delivery after 24 weeks gestation in Hospital do Espírito Santo de Évora (Portugal) in 2017 and 2018 (previously to the COVID-19 pandemic). Our sample included 2216 women: 1083 nulliparous and 1133 multiparous (51.1%). The minimum age was 14 years, the maximum 47, and the average 31 (±17 years: 30 patients; 18-29 years: 800; 30-39 years: 1228; ≥40 years: 158). The data was analyzed with SPSS.Results: Advanced maternal age was associated with:

- Deliveries by cesarean section -in nulliparous and multiparous women (nulliparous: ≥40 years: 53.5%; ≤40 years: 32.1% & χ2=p=0.003; multiparous: ≥40 years: 47.8%, ≤40 years: 32.3% & χ2=p=0.001)
- Non-urgent cesarean sections -in nulliparous women (≥40 years: 62.5% & χ2=0.006)
- Cesarean sections as a result of fetal distress or a pathological condition related to pregnancy -in multiparous women (≥40 years: 38.9%; 40 years: 24.9% & χ2=p=0.026)
- Preterm births -in multiparous women (≥40 years: 18.6%; ≤40 years: 7.5% & χ2=0.001)
- Twin deliveries -in multiparous women (≥40 years: 3.5%; ≤40 years: 1.1% & χ2=p=0.05)

There were no differences in induction of labor, birthweight, Apgar Score, fetal or maternal mortality.

Conclusion: The data from our Centre does support that advanced maternal age is associated to worse obstetric outcomes and that such association is influenced by parity. Most notably, cesarian sections were increased in women with deliveries at 40 years of age or above. In the nulliparous subgroup these numbers seem to have been driven by a lower threshold for intervention in older women. However in the multiparous subgroup the driving force appears to have been a higher incidence of fetal distress and pathological conditions related to pregnancy (like pre-eclampsia or intrauterine growth restriction); there were also more preterm births and twin deliveries.

FETAL MACROSOMIA AND OBSTETRIC OUTCOMES: UNREAL REAL-WORLD DATA

Lilia Frada1, Ana Rita Ribeiro1, Ariana Barbbara1, Miguel Penas da Costa1, Elisa Rosin1, Policarpo Pina1, Fernando Fernandes1

Obstetrics and Gynecology, Hospital Do Espírito Santo - Évora, Évora, Portugal

Problem statement: Cesarian sections have short and long-term consequences and risks. A limited number of clinical scenarios justify such intervention. An estimated fetal weight ≥4000g is considered to be one of them. It is important to know if real-world data supports this option. This study compares the obstetric outcomes of neonates with normal and macrosomic birth weights. Methods: Retrospective consult of the records of all patients with delivery in Hospital do Espírito Santo de Évora (Portugal) in 2017-2018 (previously to COVID-19) (n=2216). Selection of neonates with a birth weight of 2500-3999g or ≥4000g. The final sample included 1967 cases (normal weight: 1896; macrosomic: 71). The data was analyzed with SPSS.

Results: The 2 groups had NO significant differences in:
- Apgar Score 7 at 5min (normal weight: 0.3% vs. macrosomic: 0.0%)
- Type of delivery (normal weight: 53.4% unassisted vaginal delivery; 17% assisted vaginal delivery; 29.5% cesarian section vs. macrosomic: 50.7% unassisted vaginal delivery; 14.1% assisted vaginal delivery; 35.2% cesarian section)
- Cesarean sections as a result of fetal distress (normal weight: 23.8% vs. macrosomic: 8.3%)
- Urgent cesarean sections (normal weight: 44.7% vs. macrosomic: 48%)

There were only significant differences in:
- Induction of labor (normal weight: 25.5% vs. macrosomic: 40.0% & χ2=0.006)

Conclusion: Our Center is the only Obstetric Department within a large radius and serves a diverse population. The majority brings a third trimester ultrasound but its quality varies greatly. In this setting neonates with normal and
macrosomic birth weights had similar obstetric outcomes. It is possible that our reference should be ≥4500g.

INCREASING PREVALENCE OF LABOUR INDUCTION; HAS IT HAD ANY IMPACT ON THE PREVALENCE OF ADVERSE PREGNANCY OUTCOMES? A POPULATION STUDY IN NORWAY 1999-2019

Camilla Haalvardsen1, Nils-Halvdan Morken2,3, Anne Eskild1,4
1Department of Obstetrics and Gynaecology, Akerhus University Hospital, Lørenskog, Norway
2Department of Obstetrics and Gynaecology, Haukeland University Hospital, Bergen, Norway
3Department of Clinical Science, University of Bergen, Bergen, Norway
4Institute of Clinical Medicine, University of Oslo, Oslo, Norway

Problem statement: Induction of labour in term and particularly in post term pregnancies has been increasingly common. The rationale for induction of labour is to prevent adverse pregnancy outcomes. We wanted to study whether changes in the prevalence of labour induction are accompanied by changes in adverse pregnancy outcomes or mode of delivery.

Methods: We performed a population-based register study with data from the Medical Birth Registry of Norway. We included all singleton births at gestational weeks 37-42 in Norway, 1999-2019 (n=127 945). Our main outcome measures were: adverse perinatal outcomes (Apgar score ≤ 7 at five minutes, admission to the neonatal intensive care unit, fetal and neonatal death), mode of delivery (acute and elective caesarean section, vacuum and/or forceps assisted delivery) and post partum haemorrhage 500 millilitre. We calculated the prevalence (percent of total) of labour induction and outcome measures according to year of birth. We repeated these calculations for each gestational week at birth.

Results: During 1999-2019, the prevalence of labour induction increased from 9.7% to 25.9%. The increase was high independent of gestational week at birth. The overall decline in fetal deaths was small. Particularly had the decline in gestational week 42 little impact on the overall prevalence. There were no overall changes in the prevalence of newborn with Apgar score ≤ 7 at birth, admission to the neonatal intensive care unit or neonatal death. The proportion of women with excess post partum haemorrhage increased from 11.4% to 30.1%. The increase was independent of gestational age at birth, and was observed both in pregnancies with and without labour induction, even though the prevalence was higher when labour was induced. The prevalence of operative deliveries increased slightly.

Conclusions: Despite a large increase in induction of labour, we found only a small decrease in fetal deaths and no decrease in other adverse perinatal outcomes. The prevalence of excess postpartum haemorrhage increased dramatically.

Disclosure of interests: There are no conflicts of interest.

DETECTION OF CHROMOSOMAL ABNORMALITIES IN SPONTANEOUS MISCARRIAGE IN THE FIRST TRIMESTER BY CGH AND NEXT GENERATION SEQUENCING

Jesus Iriarte1, Amelia Villa Milla1, Elena Carrillo De Albornoz Riaza1, Beatriz Bueno Olalla1, Elena Melia Fulliana1, Santl Bau Aparicio1, Álvaro Martinez Acera1, Silvia Iniesta Perez1, Alejandra Resarch Vega1, Vega Cabezuelo Sanchez1, Ana Vegas Carrillo De Albornoz2
1Human Reproduction, Hospital Ruber Internacional, Madrid, Spain

Spontaneous miscarriage (SM) is a major cause of pregnancy failure. It is estimated that 10-15% of all clinically recognized pregnancies terminate in SM. In addition 50% of all SMs have chromosomal abnormalities (CAs).

Introduction: Conventional methods used to detect CAs and determine the cause of pregnancy loss include karyotyping, fluorescence in situ hybridization, quantitative fluorescent-PCR (QF-PCR) and multiplex ligation-dependent probe amplification. However, these methods have inherent limitations. Following the rapid development of molecular biology technologies comparative genomic hybridization (CGH) have become the standard methods used to investigate possible chromosomal cause but high cost, low throughput and requirement of high-quality DNA are the limitations. Recently the NGS is applied without the drawbacks. In this study we present the results, using QF-PCR / Array-CGH and NGS in abortive remains of the first trimester, trying to establish a relationship with the method of pregnancy, age, and the number of previous abortions.

Materials and methods: From 2015 to July 2021, 188 abortions were studied, 121 QF-PCR / Array-CGH and 67 NGS. 24 are excluded by maternal contamination.31 are from ART (without PGT-A or egg donation), wht average age 37.9, and 133 SM wht average age 37.3. Results: In the table we can see the results comparing TRA without TRA.12.7% was maternal contamination. Patients without TRA the distribution by age was 50% for ≥ 29 years, 66% for 30-34 years and 70% ≥ 35.In 109 cases wht previous abortions we didn’t found more Cas. Conclusions: The CGH and NGS techniques have allowed us to diagnose 64% of CAs. In TRA patients the alteration rate is less than spontaneous pregnancy. Other endocrine, uterine and immunological factors can interfere whit results.The most common CAs are autosomal trisomies (66%), the most common being T16,T22,T15, and T22. In SM T16,T22 and T15 are associated whit high probabilities of fetal death, anomalies, preterm delivery and intrauterine growth retardation. The X monosomy and its variants are 13%, and triploidies 12%.In conclusion CAs are the most common causes of abortion in SM whit trisomy being the most frequent.

STUDY OF CLINICAL DIAGNOSTIC AND LABORATORY CRITERIA FOR THE PREDICTION OF PREECLAMPSIA IN THE FIRST TRIMESTER OF PREGNANCY

Aynura Ismayilova1, Jamila Qurbanova1, Nailya Shahbazova1, Khayala Takhmazi1, Aflat Hasanova1, Aytan Badalova1, Halima Idrissova1
1Obstetrics and Gynaecology, Scientific Research Institute of Obstetrics and Gynaecology, Baku, Azerbaijan

Preeclampsia is one of the leading causes of maternal mortality. It is found after the 20th week of pregnancy and is characterized by hypertension, proteinuria, gestational edema, and eclampsia, could leading to maternal death. The purpose of this article was to study the risk factors for preeclampsia, as well as to predict preeclampsia using diagnostic (Doppler) and laboratory markers (B-2 glycoproteine-1, XQ, PAPP-A, placental height factor) until.

According to the results of the study, the presence of chronic hypertension in previous pregnancies (PV + 100%), history of preeclampsia and eclampsia (PV + 83.3%), vaginal bleeding in current pregnancies (PV + 83.3%), a combination of 3 and more risk factors (PV + 85.2%) was assessed as a high risk factor for preeclampsia. Preclinical
ASSOCIATED INDICATORS WITH NO TREATMENT, INADEQUATE TREATMENT AND DELAYED TREATMENT IN MATERNAL SYPHILIS: A CROSS-SECTIONAL STUDY IN EASTERN CHINA

Xiaohui Zhang1, Qiang Yao2, Lei Mao1, Wei Zheng, Wei Zhang3

1Department of Women's Health, Women's Hospital, Zhejiang University School of Medicine, Hangzhou, China
2School of Public Health, Sichuan University, Chengdu, China
3Office of Education, Women’s Hospital, Zhejiang University School of Medicine, Hangzhou, China

Problem statement: To improve adequate and early treatment for maternal syphilis are still challenges. Methods: A cross-section study was conducted. Data were from the China’s Information Management System of Prevention of Mother-to-Child Transmission (PMTCT) of Syphilis in Zhejiang. Maternal syphilis reported during 2014-2020 were included. The demographic characteristics, history of pregnancy and labor, syphilis infection and treatment were assessed. Multivariate logistic regression was used to explore the associated factors with therapy at individual-, county- and hospital level. Results: A total of 15,473 syphilis pregnant women from 11 cities, 92 counties, and 882 hospitals during 2014-2020 in Zhejiang were enrolled. The overall coverage of treatment, adequate treatment, and early treatment were 92.50%, 72.56%, and 40.50%, respectively. At individual level, to postpone per one week of first antenatal health care (ANC) visit (Odds ratios[ORs]= 1.032 [0.95%, 1.040], 1.078 [1.072, 1.084], and 1.201 [1.169, 1.212]), to be known partner’s syphilis infection status or unscreened (1.118 [95%, 1.057, 1.299], 1.171, 1.441), and 1.309[1.202, 1.426]), to identify maternal syphilis at labor (16.341[13.283, 20.103], 25.883[20.509, 32.665], and 5.057[9.131, 6.536]) or after labor (28.349[20.829, 38.576], 26.986[17.016, 42.796], and 6.037[3.505, 10.398]) were strongly associated with no treatment, inadequate treatment, and delayed treatment, respectively. Compared to those who had more than one child, those with only one child were less likely to being treated, inadequately treated, and lately treated, with ORs as 0.697(0.559, 0.869), 0.631(0.548, 0.726), and 0.777(0.674, 0.895), respectively. Maternal syphilis titer beyond 1:8 promoted adequate treatment than the remainders (0.812 [0.718, 0.919]). Maternal syphilis therapy rates also differed significantly across counties and hospitals, presenting MORs as 2.034 at county level and 1.792 at hospital level for treatment. 1.680 vs 1.320 for inadequate treatment, 1.244 vs 1.332 for late treatment. Moreover, GDP per capita (1.068[1.001, 1.139]) was poorly with maternal syphilis therapy. Conclusion: Despite high coverage of maternal syphilis treatment, adequate and early treatment rates were still poor and varied at individual-, county- and hospital level. The associated factors were multiple. Women with unstable marriage, with late first ANC, without syphilis information for their partner, with syphilis stage as one or above are vulnerable population for treatment.

PRIMARY HYPERPARATHYROIDISM IN PREGNANCY REFRACATORY TO MEDICAL MANAGEMENT: A CASE REPORT

Tiago Meneses Alves1, Ana Beatriz Almeida2, Maria Ines Sousa1, Marta Sales Moreira2, Liliana Fonseca1, Antonio Braga1, Liliana Fonseca3, Antonio Braga1,3, Jorge Dores2,3, Jorge Braga1,3

1Obstetrics Department, Centro Materno Infantil do Norte (CMIN), Centro Hospitalar Universitário do Porto, Portugal, Porto, Portugal
2Endocrinology Department, Centro Materno Infantil do Norte (CMIN), Centro Hospitalar Universitário do Porto, Portugal, Porto, Portugal
3Instituto de Ciências Biomédicas Abel Salazar – ICUBAS, University of Porto, Porto, Portugal

The incidence of primary hyperparathyroidism (PHPT) in pregnancy is rare but associated with serious maternal and fetal consequences. The principal cause of PHPT in pregnancy is parathyroid adenoma. Clinical manifestations are present in approximately 70% of the diagnosed patients. Treatment is based upon severity, symptoms and gestational age. Surgical approach is preferred for symptomatic hypercalcemic PHPT. We report the case of a
primigravida presenting symptomatic hypercalcaemia caused by underlying hyperparathyroidism and that remained symptomatic after aggressive conservative management. Research performed in PubMed databases including the terms “hyperparathyroidism” and “pregnancy”. Case reports and research articles of Primary hyperparathyroidism in pregnancy were selected and the patient’s case was revised. A 22-year-old woman with a medical history of second-degree aortic valve stenosis and mitral valve prolapse was referred to the Department of Endocrinology after a cervical ultrasound prescribed for symptoms of dysphagia. This exam showed a round hypoechoic nodule (19 mm x 17 mm x 22 mm) in her left thyroid lobe compatible with parathyroid adenoma. A technetium-99m sestamibi scan confirmed the localization of parathyroid disease. The blood tests revealed elevated S-Ca and parathyroid hormone (PTH) levels. Given her young age, genetic testing to excluded Multiple Endocrine Neoplasia Type 1 and 2 was performed. She became pregnant while on the study of PHPT. At first prenatal appointment a biochemistry evaluation revealed severe hypercalcemia and a hospitalization was proposed. Oral hydration with saline infusions administered intravenously associated to a single dose of cinacalcet were started. However, she developed clinical manifestations of hyperemesis and nausea, her S-Ca level increased and a short QT interval was detected in her electrocardiogram. Surgery of her left lower parathyroid gland was done and her level of intravenous PTH level was 107 pg/ml. Her S-Ca levels were 1.45 mmol/L on the first postoperative day. In order to prevent hungry bone syndrome, vitamin D was started. Nine days after the parathyroidectomy she was discharged from the hospital. The pregnancy follow up is going without significant complications. This case highlights the beneficial role of timely surgical management for severe or symptomatic PHPT in pregnancy and the need for a multi-disciplinary approach for the maternal and fetal wellness.

**Problem statement:**
Primary hyperparathyroidism diagnosis in pregnancy

**Ana Rita Mira**1, Ana Rita Mira1, Manuela Almeida1, Ilda Salavisa1, Alcides Pereira1, Ricardo Capitao2, Maria Carlos Vale2

1Gynecology and Obstetrics, Hospital Garcia de Orta, Almada, Portugal
2Endocrinology, Hospital Garcia de Orta, Almada, Portugal

**Results:**
Primary hyperparathyroidism (PHPT) is a rare diagnosis in pregnancy with a prevalence rate of 0.05%. The most frequent aetiology is a solitary parathyroid adenoma. Pregnant women are mostly asymptomatic but some develop lethargy, weakness, nausea, vomiting and polyuria which are also frequent early pregnancy symptoms. Diagnosis is made in the presence of hypercalcemia with a non-suppressed parathyroid hormone (PTH) level. PHPT can be associated with maternal complications - hyperemesis gravidarum, nephrolithiasis, pancreatitis – and neonatal hypocalcaemia. Management is dependent on the severity of symptoms, gestational age and complications. Mild cases can be managed conservatively whereas in severe cases surgery is the only curative option. **Methods:** Case report and literature review. **Results:** A 43-year-old-nullipara, with a medical history of gastric bypass (due to previous grade III obesity) and nephrolithiasis was referred to our centre at 11 weeks gestation, for pregnancy surveillance. In early pregnancy she complained of weakness, nausea and vomiting. Her first trimester screening and ultrasound were normal and demand for Endocrinologist follow up was requested due to her medical antecedents. Analytic evaluation with ionized panel performed at 24 weeks revealed anemia - 11.2 g/dL haemoglobin, vitamin B12 and vitamin D deficiency - 185 pg/mL and 18.2 ng/mL respectively, hypophosphatemia - 2.1 mg/dL, hypercalcaemia - 11 mg/dL and elevated PTH levels - 177 pg/mL. Thyroid function was normal. Upon these laboratory findings, primary hyperparathyroidism was diagnosed and cervical echography revealed its origin: a parathyroid adenoma. Aspirative cytology was performed, demonstrating high PTH levels - 292 ng/L - in the collected liquid, confirming hyperparathyroidism diagnosis. The patient is currently in the 3rd trimester, remains asymptomatic and with mild hypercalcaemia, therefore a conservative management has been adopted so far. **Conclusion:** PHPT is a rare diagnosis in pregnant women. Most cases are asymptomatic or develop symptoms similar to those that occur early in pregnancy. High clinical suspicion is paramount for the diagnosis in pregnancy, enabling optimal management with a multidisciplinary approach to provide the best maternal and neonatal care.

**THIRD-TRIMESTER PLEURAL EFUSSION – DIAGNOSIS AND APPROACH BASED ON A NOONAN SYNDROME CASE REPORT**

**Diana Monteiro**1, Marta Campos2, Mariana Morais3, Marcia Marinho3, Jorge Castro2, Catia Lourenço2, Ana Filipa Geraldo1, Monica Melo2, Ana Olivia Sousa2, Matilde Azevedo2, Cristina Godinho2, Maria Conceicao Brito2

1Gynecology and Obstetrics, Unidade Local De Saude Matosinhos - Hospital Pedro Hispano, Porto, Portugal
2Gynecology and Obstetrics, Centro Hospitalar Vila Nova de Gaia/Espinho, Vila Nova De Gaia, Portugal
3Radiology, Centro Hospitalar Vila Nova de Gaia/Espinho, Vila Nova De Gaia, Portugal

**Problem statement:** Noonan Syndrome (NS) has a clinical and genetical heterogeneous presentation. It is nearly always an autosomal-dominant disease (50% having a pathogenetic variant of the PTPN11 gene) with 1/3 of cases being inherited, not uncommonly by parents unknown of their diagnosis. Should be suspected in cases of increased nuchal translucency (NT), ascites or polyhydramnios and imagiological signs may include kidney and heart anomalies. Prognosis is variable, from antenatal demise to mildly affected adults with normal lifespan. **Methods:** To report a case of prenatal diagnosis of NS, using clinical data and reviewing bibliography. **Results:** Twenty-five years-old primigravida, unremarkable past medical history. On 1st trimester ultrasound (US), NT above the 99th percentile was diagnosed. Chorionic villus sampling was performed. Qf-PCR and cGH-array were normal. Following US evaluations were normal, namely 2nd trimester nuchal fold. At 25 weeks, an echogenic cavitum septi pellucidi was observed, which prompted a fetal MRI that identified a slight thickening of the fornix, which was confirmed by MRI at 33 weeks, of unknown significance. At 32 weeks and 6 days, moderate volume right pleural effusion was identified, and a next generation-sequencing (NGS) panel for NS most frequent mutations was performed. US scanning were performed on a weekly basis, until 34 weeks and 3 days, when moderate polyhydramnios was noted. Fetal lung maturation was initiated. The following day, bilateral hydrothorax with left shift of mediastinic structures were present. Due to daily progressive worsening of clinical findings, bilateral thoracocentesis and amnioreduction were performed at 35 weeks, with almost complete thoracic decompression. Meanwhile, NGS panel revealed the diagnosis of NS. Three days later the thoracic fluid had rebuilt and termination of the pregnancy through c-section was decided. Thoracocentesis was repeated just before fetal extraction. Newborn had 2500g and Apgar Index of 7/8/8 and was admitted in the Neonatology Care Unit. A bilateral thoracic drain since 1st day of life was needed as well as octreotide support. **Conclusion:** NS accounts for less than 5% of hydrothorax cases, but it’s a diagnose to be kept in mind since it will be missed on Qf-PCR and cGH-array. A genetic cause for fetal hydrothorax may influence surveillance, treatment and prognosis.
**Problem statement:** Nowadays, emergency periapartum hysterectomy (EPH) is only performed as a life-saving surgery in serious postpartum hemorrhagic situations, when more conservative measures such as medical treatment or less invasive surgical procedures fail. With this retrospective study we aim to evaluate its incidence, indications, risk factors and maternal morbidity.

**Methods:** A retrospective analysis of all the EPH performed over the last 20 years in a tertiary care facility was made.

**Results:** There were 27 cases of EPH among 35439 deliveries, between 2001 and 2021, with an incidence of 0.76:1000 births. 71% were performed during the first 10 years. Over the last 10 years the incidence decrease from 1:17:1000 to 0.38:1000 births. From all the EPH, only 7% were subtotal. The most common indication for this procedure was uterine atony (59%), followed by placental invasion (30%). Uterine inversion or rupture and cervix lacerations were identified as less common causes. Risk factor analysis showed multiparity (75%), cesarean delivery in the current pregnancy (59%), older age (54%) and previous cesarean section (26%) as important contributing aspects for this outcome. There was no mortality registered, however severe morbidity was seen, with hypovolemic shock and intravascular disseminated coagulation as the main complications.

**Conclusion:** EPH is the most demanding obstetric surgery performed in very exasperating situations of life threatening postpartum hemorrhage. The incidence has been decreasing over the last two decades, probably due to better postpartum hemorrhage care with earlier, faster and improved diagnosis and treatment. Simulation training may have an important role in this new reality. Cesarean deliveries prior to or in the current pregnancy are important risk factors since they contribute to abnormal placental disorders and a higher risk of uterine atony and rupture.

**FETAL BOWEL DILATATION ON LATE PREGNANCY: CASE REPORT**

Maria Oliveira1, Mario Rui Correia2, Joana Barbosa-Sequeira3, Marisa Moreira3, Daniela Goncalves3, Maria Luisa Ferreira3

1Gynecology and Obstetrics, Centro Hospitalar Baixo Vouga, Aveiro, Portugal
2Pediatric Surgery, Centro Materno Infantil Do Norte, Porto, Portugal
3Gynecology and Obstetrics, Centro Materno Infantil Do Norte, Porto, Portugal

**Problem statement:** The presence of dilated bowel loops antenatally suggests fetal bowel obstruction. Depending on the level and extent of obstruction, timing of presentation, diagnosis and prognosis may modify. Finding its etiology antenatally is difficult, however differential diagnosis as bowel atresia or stenosis, malrotation with volvulus, meconium ileus, total colonic aganglionosis, and meconium plug syndrome must be thought. Jejunoileal atresia (JIA) is seen in 1:5000-14000 live births. It has an important impact as a V-shaped gap within the mesentery, confirming a type IIIa ileal atresia. Due to significant size discrepancy between proximal and distal bowel, a temporary ileostomy was performed. Enteral feeding was introduced in the 4th post-operative day. **Conclusion:** JIA is a common cause of intestinal obstruction in neonates. Distal intestinal atresia more commonly presents with sonographic findings more lately in pregnancy. Occasionally, it is associated with other malformations such as cardiac anomalies, gastrochisis, and cystic fibrosis. Antenatal detection is crucial to determine is management, including time of delivery with early resuscitation and prompt surgical intervention available.

**A CASE STUDY REPORT: DELAYED DIAGNOSIS OF SECOND TRimestER ABDOMINAL PREGNANCY**

Tetyana Palamarchuk1, Temidayo Oyepitan2, Temidayo Oyepitan, Toluope Afun1, Rebecca Allen1

1, 2, Rebecca Allen Obstetrics and Gynaecology, Whips Cross University Hospital, London, UK

**Problem statement:** Abdominal Pregnancies are a rare form of ectopic pregnancy that often carry a high risk of maternal morbidity and mortality. The diagnosis of an abdominal pregnancy in the second trimester which was not diagnosed on early pregnancy routine obstetric scans, in a 35-year-old Black-African woman. Diagnosis was made at repeat anomaly scan at 21 weeks + 3 days and confirmed with MRI, further management and MDT involvement. Our case’s rarity was identified as a case where the baby was originally in the amniotic sac surrounded by normal liquor volume, the placental site was well visualized and attached closely to the fundus of the uterus. The transabdominal and transvaginal scans showed that this was an intrauterine pregnancy coupled with an endometrium mimicking that of the cervix. The uterus was visualized, and the diagnosis of an abdominal pregnancy was made possible after the rupturing of the sac, leading to anhydraminos which caused the baby to move from the pelvic region to the upper maternal abdomen.

**Results:** The patient underwent a laparotomy, delivery of the baby, excision of the placenta, left salpingo-oophorectomy and omentectomy as an emergency procedure. Operation findings indicated an intact uterus, and the placenta was embedded at the left Comua. The baby was identified extraterine and delivered in a poor condition.

**Conclusion:** The diagnosis of abdominal pregnancy requires a high index of suspicion and extensive understanding and interpretation of the clinical and radiological findings. There is currently no widely accepted diagnostic criteria for abdominal pregnancies and the current criteria available is only for primary abdominal pregnancies, which is based on Studdiford standards. Standardization of the treatment principles for advanced abdominal pregnancy, perioperative treatment and postoperative management measures would improve newborn survival, reduce complications and mortality.

**Disclosure of interest:** no interests to disclose.
PREGNANCY COMPLICATED BY SEIZURES: A PERINATAL EMERGENCY CASE REPORT
Margarida Pavao1, Luisa Silva1, Joana Bernardesco1, Sofia Domingues1, Jorge Simoes1
Gynaecology and Obstetrics, Centro Hospitalar De Setubal, Setubal, Portugal

Problem statement: Seizures during pregnancy complicate 1% of all gestations. They are associated with adverse maternal and perinatal outcomes. The differential diagnosis of seizures in pregnancy is extensive. Determining its etiology is crucial to the proper management of these patients. Seizures in pregnancy can be classified into three categories: 1) can occur independently from the pregnant state, 2) are exacerbated by the pregnant state, 3) are unique to the pregnant state.

Methods: The aim of this case report is to increase awareness and discuss an appropriate approach for the diagnosis of pregnancies complicated by seizures.

Results: A 38-year-old primigravida with history of diabetes mellitus type 1 and chronic hypertension, identified with autoantibodies against alpha-methyldopa at 16 weeks of pregnancy and medicated with insulin and nifedipine, came to a routine appointment at 33 weeks and 6 days and complained of elevated blood pressure (BP145/95mmHg), epigastric pain, edema and fasting hypoglycemias of 30-40mg/dl in the last week. The patient was admitted at the emergency department for evaluation, where she began having tonic-clonic seizures with loss of consciousness. The BP at the time of admission was 182/102mmHg and the pre- eclampsia routines were all negative, including a 24-hour urine proteinuria. An emergent caesarean section was performed (female newborn, 2835g, Apgar score 6/7). He required mechanical ventilation. The newborn stayed at neonatal unit during 47 days. It was admitted at hospital and had an expectant management. In both cases the initial infection screening was negative. They did a single 7 day course of empiric antibiotics. The newborn stayed at neonatal unit during 47 days. It was identified ESBL microorganism colonization, without developing clinical signs of infection. Pregnant B, 38 years-old. She had four prior in vitro fertilization (IVF) that were unsuccessful and this pregnancy was also a result of IVF. Ultrasound performed at 23 weeks revealed short cervix.

WHEN INSUFFICIENT PRENATAL CARE IS LINKED TO PRETERM BIRTH - A CLINICAL CASE
Miguel Penas Da Costa1, Lilia Frada1, Rita Ribeiro1, Ariana Barbara1, Elisa Rosin1, Marina Do Vale1, Fernando Fernandes1
Obstetrics, Hospital Do Espirito Santo De Evora, Evora, Portugal

Problem statement: Timely management of cervical insufficiency Methods: Checking the clinical information of the patient in our unit’s server. Results: A 30 year old woman was sent to our unit with threatened preterm birth (PTB) at 27w+2d. The patient had history of gestational diabetes and gestational hypertension. The current pregnancy was conceived through IVF. TOP1A1L0, both pregnancies conceived through IVF, one resulted in a spontaneous abortion, the other in preterm labour of twins (23w), linked to cervical insufficiency (CI). The speculum exam evidenced an opened cervix with a protruding amniotic sac. The ultrasound showed a live fetus, cephalic presentation and a cervical length of 6mm with funneling. The patient was admitted and started bed rest, corticotherapy, magnesium sulphate and antibiotic prophylaxis. Whilst hospitalized the patient maintained a slight Trendelenburg position, periodic sonograms, physiotherapy, regular bloodwork and therapeutic adjustments. At 31w+5d the patient started exhibiting lumbar and abdominal pain. A cesarean section was performed, to which a live female baby with 1620g was born. Conclusion: PTB is a major cause of neonatal morbidity and mortality. One of the most significant risk factors for PTB is a history of preterm delivery. This is a rare etiology of PTB is CI. The obstetric history of this patient demanded a close evaluation of the cervical length, progesterone use and, according to guidelines, a prophylactic cerclage. Neither of these procedures were performed and additionally, on arrival at our unit, an emergency cerclage was not an option due to the advanced gestational age. Even though the patient gave birth to her first live newborn, a prompt follow-up and management would have been of utmost importance and could have improved the fetus prognosis.
A NOVEL ARTIFICIAL INTELLIGENCE APPROACH FOR THE AUTOMATIC DIFFERENTIATION OF FETAL OCCIPUT ANTERIOR AND NON-OCCIPIT ANTERIOR POSITIONS DURING LABOR
Ruben Ramirez Zegarra1,2, Tullio Ghi3, Francesco Conversano3, Paola Pisani3, Andrea Dall’Asta1, Antonio Lanzone1, Wailam Lau4, Antonella Vimercati1, Dominic G. Iliescu1, Ilaria Mappa1, Giuseppe Rizzo3, Sergio Casciaro1, and Ruben Ramirez Zegarra2

Aim: To develop an automatic system to classify the fetal occiput position with ultrasound images.

Methods: A prospective cohort study was conducted at two tertiary maternity units (Parma University Hospital and St. Joseph Krankenhaus, Berlin, Germany) on a total of 395 patients. The algorithm was trained on labeled data (training dataset) and evaluated on unlabeled data (testing dataset). The Cohen’s kappa (k) was used to evaluate the agreement between the automatic assessment and the gold standard method.

Results: The algorithm accurately classified the fetal occiput position in 90.6% of cases (357 out of 395), including 224/246 (91.0%) OA and 133/149 (89.3%) non-OA positions. A high agreement between the automatic assessment and the gold standard method was noted (k = 0.81; p < 0.0001).

Conclusions: An automatic system for the assessment of fetal occiput position using ultrasound images has been developed and demonstrates good agreement with the gold standard method. Further validation in a larger cohort is required to confirm these findings.
patients) and 20 (27 patients). The types of preeclampsia were severe preeclampsia (178 cases, 39 had reactive SARS-COV-2 antibody results which 3 of them lead to fetal distress and 1 oligohydramnios, 7 were confirmed COVID-19, 2 were COVID-19 suspects, 1 had positive SARS-COV-2 antigen results, 3 were delivered vaginally), impending eclampsia (53 cases, 2 had reactive SARS-COV-2 antibody results which one of them lead to fetal distress, 1 were COVID-19 suspect, 1 were probable COVID-19 ended to fetal death), preeclampsia without severe features (38 cases, 14 had reactive SARS-COV-2 antibody results), eclampsia (24 cases, 3 had reactive SARS-COV-2 antibody results), haemolysis, elevated liver enzymes and low platelets (HELLP) syndrome (21 cases), and superimposed preeclampsia (11 cases). 11 patients developed more than one type of preeclampsia. **Conclusion:** Severe preeclampsia patients had the most variety of COVID-19 indication of infection and they lead to fetal distress. All patients confirmed with COVID-19 had severe preeclampsia. Impending eclampsia patients and probable COVID-19 lead to fetal death. These particular group of patients should be considered as vulnerable cases with regard to the risks posed by COVID-19, even though further research may be required.

### PREVENTING HEMORRHOIDS AND FISSURES OF PREGNANCY: RESULTS OF THE RANDOMIZED CONTROLLED TRIAL

Zivile Sabonyte-Balsaitiene1, Tomas Poskus1,2, Grazina Drasulienė1, Diana Ramauskaitė1,2, Eugenijus Jasiunas1, Kestutis Strupas1,2, Lina Jakubauskiene1,2, Matas Jakubauskas1,2, Mante Smigielskaite1,2, Gabija Barkauskaite1,2

1Department of Obstetrics and Gynecology, Vilnius University Hospital Santaros Klinikos, Vilnius, Lithuania
2Faculty of Medicine, Vilnius University, Vilnius, Lithuania

**Problem statement:** Perianal disease (PD) is common in pregnancy and postpartum period. Most relevant risk factor for PD is constipation. Dietary and behavioral changes may reduce the relevance of constipation as well as PD. No studies have evaluated the prevention of constipation with the reduction of the risk of PD. **Methods:** Pregnant women who consented to participate in the study were randomly assigned during the first trimester of pregnancy to dietary and behaviour intervention, aimed at prevention on constipation, prolonged straining and reduced time on the commode (intervention group - IG) or to routine pre- and perinatal care (CG). Women were followed up until after the childbirth. Gynaecologists, who were discharging the women from the maternity units and who were blinded to the randomization allocation, filled a questionnaire regarding perianal signs and symptoms and presence of perianal disease. Presuming baseline risk of 35% and reduction of risk to 17%, the level of significance α of 5.0%, power (1-β) of 80%, the sample size was calculated to be 206 patients. The sample size was increased by 30% to 260 to account for losses to follow-up and terminations of pregnancies. The study was approved by the Vilius Regional Bioethics Committee, Vilius, Lithuania on the 10th of May 2016, registration number 158200-16-843-357. **Results:** 260 women were included in the study from 2016 to 2019 in the three centres. The demographic, clinical, obstetric and medical history characteristics were equal between the groups during the first trimester of pregnancy. 218 women completed the study - 102 in the IG and 116 in the CG. 20 women in the IG (20%) and 53 women in CG (47.8%) were diagnosed with postnatal perianal disease, p<0.001. There were 2 cases of spontaneous abortions in the IG and 5 cases in CG. P=0.32. **Conclusion:** Women, who were assigned to dietary and behaviour recommendations aimed at preventing constipation and prolonged straining were twice less likely to suffer from symptoms of perianal disease after childbirth. There was no increased risk of pregnancy loss in the intervention group so these recommendations are safe enough to be given to pregnant patients.

### WHEN TO SUSPECT OF OTHER TYPES OF DIABETES DURING PREGNANCY – A CLINICAL CASE OF MATURET ONSET DIABETES OF THE YOUNG (MODY)

**Problem statement:** Maturity onset diabetes of the young (MODY) is a type of noninsulin-dependent diabetes, usually diagnosed at a young age. It is frequently misdiagnosed as either type 1, type 2 or gestational diabetes. It is caused by a monogenic mutation, with autosomal dominant transmission. Several genetic abnormalities have been identified, with one of the most affected genes being the glucokinase gene (CGK). These anomalies may lead to impaired glucose sensing or decreased insulin secretion. One of the main concerns during pregnancy is knowing when to initiate insulin therapy, as a higher risk of neonates below the 25th percentile has been described in cases where both the mother and the fetus have the mutation and insulin therapy.

**Methods:** Retrospective description of a clinical case. **Results:** We describe the case of a 35-year-old woman, with autoimmune hypothyroidism and a clinical suspicion of diabetes in her childhood. This hypothesis was raised due to fasting mild hyperglycemias, though she never had a value above the cut-off to establish the diagnosis and never needed medication. She came to our hospital for the first obstetric consultation, with a fasting glycemia of 112 mg/dL on the first trimester blood analysis. As she had a body mass index (BMI) of 23.1 kg/m2 and heavy familial history of diabetes, a CGK test was requested, which confirmed the diagnosis of MODY. During pregnancy, she kept reasonable control of blood glucose levels with diet and physical exercise alone. She had spontaneous labor at 37 weeks, but due to labor arrest, a cesarean section was performed, with the birth of a male newborn, 3590g (93rd percentile).

**Conclusion:** Monogenic causes of diabetes, such as MODY, represent only a small fraction of cases. Nevertheless, our case highlights the importance of taking this hypothesis into consideration, especially when presented with young women with low to normal BMI, a history of hyperglycemia, and a family history of diabetes. This diagnosis is important as the therapeutic approach and possible complications during pregnancy are utterly different from the ones known in gestational diabetes.

### URATE AND OTHER BIOCHEMICAL MARKERS AS PROGNOSTIC INDICATORS OF ADVERSE MATERNAL OUTCOMES IN PREECLAMPTIC WOMEN: A RETROSPECTIVE COHORT STUDY

Sivasaaini Sivakumaran2, Clara R Dahlenburg2, Vanitha Math1

1Department of Obstetrics & Gynecology, Gold Coast University Hospital, Gold Coast University Hospital, Australia
2Faculty of Health Sciences & Medicine, Bond University, QLD, Australia

**Problem statement:** To explore if elevated serum urate and other biochemical marker levels (Calcium, AST, ALT) in preeclamptic women in early pregnancy (20 weeks gestation) are useful prognostic indicators of adverse maternal outcomes and to establish a predictive threshold value that indicates an increased risk of maternal complications. **Methods:** A retrospective cohort study was conducted at Gold Coast University Hospital, Australia involving 105 pregnant women with pre-eclampsia between January 2019 to December 2020. Preeclampsia was diagnosed based on local hospital guidelines. Serum levels
of urate, calcium, AST and ALT were extracted from the initial blood tests performed at booking visit prior to 20 weeks gestation. Maternal outcomes included post-partum haemorrhage, perineal tears, instrumental delivery, emergency caesarean section, placental abruption, blood transfusion requirements and ICU admission. Results: There were 105 women enrolled in this study. Serum uric acid at cutoff of 0.255 mmol/L was found to be a statistically significant predictor of general maternal complications such as post-partum haemorrhage, perineal tears, instrumental delivery, emergency c/s, placental abruption, blood transfusion requirements and ICU admission (AUC 0.625, P=0.032) with a 52.3% sensitivity and 72.5% specificity. Women with high urate levels at booking visit are 2.9 times more likely to experience an adverse outcome (OR 2.89, 95% CI 1.24,6.75; P = 0.014). Specifically, these women are 2.4 times more likely to experience a PPH (OR 2.4, 95% CI 1.05, 5.50; P = 0.038) and 2.5 times more likely to have an emergency caesarean section (OR 2.5, 95% CI 1.13, 5.54; P = 0.024). High serum calcium, AST and ALT at booking did not reveal a significant association with adverse maternal outcomes with preeclampsia (P = 0.05).

Conclusions: Maternal serum urate at booking has a potential role as a predictor of maternal outcomes in women with pre-eclampsia/severe pre-eclampsia and may play a role in establishing a global increase in risk but a larger cohort study is required to validate its reliability.

LOW BACK PAIN IN PREGNANCY: A DIAGNOSTIC AND CLINICAL APPROACH CHALLENGE
Sara Sousa¹
Gynecology, Hospital Vila Franca De Xira, Lisbon, Portugal

Problem statement: Low back pain is a very frequent complaint in pregnancy. In most cases is associated with musculoskeletal pathology or uterine contractility. Nevertheless, low back pain could be associated with rarer situations, such as neuropathic pain due to zoster infection.

Methods: Description of a clinical case based on the clinical process

Results: A 40-year-old woman, 30 weeks and 3 days pregnant, with personal history of active systemic lupus medicated with immunosuppressants, was admitted in the emergency department due to an intense, constant, left lumbar back pain, since one week ago. Physical and gynecological exam was normal, except a doubtful Murphy's Signal on the left side. The obstetric ultrasound showed no changes and the cardiotocography recorded no contractions. Blood tests revealed no increase of inflammatory parameters and the urinalysis was negative. Renal ultrasound showed no changes, with no sign of nephro lithiasis. The pregnant woman was hospitalized due to uncontrolled pain with oral therapy and for further etiological investigation. During the hospital admission, the pain was reliving and was assumed in context of musculoskeletal pathology. She was discharged from the hospital with analgesic medication. Two days after discharge, at the high-risk pregnancy appointment, the pregnant woman mentioned lumbar pain resurgence, more located and intense, that gets worse at night. She also highlighted the arising of skin lesions at lumbar region. On physical examination she presented, at left thoraco-lumbar region, a cluster of blister-like herpetic lesions, with dermatomal distribution. It was admitted herpes zoster infection and the pregnant was medicated with oral valaciclovir. One week after suspending the antiviral therapy, she returned to the emergency department due to continued uncontrolled left lumbar pain. On observation, the herpetic skin lesions were on healing process. It was assumed neuropathic pain due to herpes zoster infection. The woman was hospitalized to be submitted to a peripheral nerve block, to avoid systemic analgesic medication. The procedure occurred without complications and caused a substantial decreasing of pain. The remaining pregnancy and childbirth were uneventful.

Conclusion: This case illustrates a rare cause of low back pain in pregnancy and highlights the challenge of pain control in pregnant woman.

MATERNAL OBESITY AND GESTATIONAL DIABETES MELLITUS INFLUENCE ON ADVERSE PERINATAL OUTCOMES
Leonardo Souza de Carvalho¹, Antonia Aparecida Delucade Oliveira¹,3, Tassiana Cristina Martins Grabovski¹, Carla Christina Renzo¹, Rodrigo Ribeiro e Silva², Sabrina Hafemann Loz³, Jean Carl Silva¹,³
¹Department of Postgraduate Studies in Health and Environment, University of Joinville Region - UNIVILLE, Joinville, Brazil
²School of Medicine, University of Joinville Region - UNIVILLE, Joinville, Brazil
³Research Centre, Darcy Vargas Maternity, Joinville, Brazil

Problem statement: Maternal obesity and gestational diabetes mellitus (GDM) are both conditions related to adverse perinatal outcomes. Nevertheless, there is a controversy on which of these morbidities most influences poor maternal-fetal prognosis. The aim of this study was to evaluate the influence of isolated and associated prepregnancy obesity and GDM on adverse perinatal outcomes.

Methods: A retrospective cross-sectional observational study was done with postpartum women from a south Brazilian’s public maternity, between august and december 2020. An interview was held and an application form was filled out by single pregnant women aged 18 or over, without previous diabetes mellitus. Starting from body mass index – BMI (based on the first antenatal visit) and GDM screening (based on Pan American Health Organization – PAHO criteria), the sample was stratified in four groups: non-obese (BMI<30kg/m2) without GDM – reference group, non-obese with GDM, obese (BMI≥30kg/m2) without GDM and obese with GDM. Preeclampsia, c-section, large for gestational age (LGA) newborn (NB) and NB admission to neonatal intensive care unit (NICU) were analysed by odds ratio (OR) computation, adjusted for confounding factors, adopting 95% confidence interval (CI) and p<0.05 statistically significant.

Results: 1618 postpartum women were included. Obese non-GDM patients (233/14.40%) had high risk of preeclampsia (OR=2.16; CI:1.364-3.426; p=0.001), GDM non-obese women (190/11.74%) had high risk of c-section (OR=1.736; CI:1.136-2.652; p=0.011) and NB admission to NICU (OR=2.32; CI:1.258-4.201; p=0.007), while those with GDM and obesity (121/7.48%) had high risk of preeclampsia (OR=1.93; CI:1.074-3.484; p=0.028), c-section (OR=1.925; CI:1.124-3.298; p=0.017) and LGA NB (OR=1.81; CI:1.027-3.204; p=0.040) when compared with non-obese non-GDM
patients (1074/66.38%). Conclusion: like GDM, maternal obesity individually enhances the risk of adverse perinatal outcomes. Its association with GDM amplify these risks.

OFFSPRING BIRTHWEIGHT AND PLACENTAL WEIGHT – DOES THE TYPE OF DIABETES MATTER? A POPULATION-BASED STUDY OF 319 076 PREGNANCIES

Ellen Marie Strom-Roum1 Obstetrics and Gynecology, Akershus University Hospital, Oslo, Norway

Problem statement: Our aim was to estimate the difference in birthweight and in placental weight in pregnancies with type 1 diabetes, type 2 diabetes and gestational diabetes as compared to pregnancies without diabetes. Methods: By using data from the Medical Birth Registry of Norway during the years 2009-2017, we included 319,076 singleton pregnancies with delivery after the 21th week of pregnancy. We used linear regression analyses to estimate the difference in birthweight and in placental weight in grams (g) in pregnancies with type 1 diabetes, type 2 diabetes, and gestational diabetes, using pregnancies without diabetes as the reference. Adjustments were made for pregnancy duration and pre-pregnancy body mass index. Results: In pregnancies without diabetes, mean crude birthweight was 3527g (SD 552g). The adjusted mean birthweight was 525g (95% CI 502g-549g) higher in pregnancies with type 1 diabetes compared to pregnancies without diabetes. In pregnancies with type 2 diabetes, and pregnancies with gestational diabetes, birthweight was 102g (95% CI 100g-225g) and 102g (95% CI 93g-110g) higher, respectively. Mean crude placental weight was 664g (SD 147g) in pregnancies without diabetes. Compared to pregnancies without diabetes, the adjusted mean placental weight was 109g (95% CI 101g-116g) higher in pregnancies with type 1 diabetes, 50g (95% CI 39g-60g) higher in pregnancies with type 2 diabetes, and 31g (95% CI 28g-34g) higher in pregnancies with gestational diabetes. Conclusion: The increase in birthweight and in placental weight associated with maternal diabetes was most pronounced for type 1 diabetes, followed by type 2 diabetes, and gestational diabetes. Disclosure of interest: None

LATERAL SINUS THROMBOSIS – A RARE POSTPARTUM COMPLICATION

Marcia Vieira-Coimbra1, Nuno Pereira1, Isabel Torres1 Obstetrics and Gynecology, Centro Hospitalar Tondela-Viseu EPE, Viseu, Portugal

Problem statement: Cerebral Venous Thrombosis (CVT) is a rare cause of cerebral ischemia, corresponding to approximately 0.5% of stroke cases. CVT usually appears like GDM, maternal obesity individually enhances the risk of adverse perinatal outcomes. Its association with GDM amplify these risks.

Conclusion: The present clinical case documents a rare postpartum complication and how it was managed in order to have a favourable outcome. No conflict of interest to declare.

GYNECOLOGICAL ONCOLOGY

EMBRYONAL RHABDOMYOSARCOMA (ERMS) IN A 15-YEAR-OLD GIRL WITH RECURRENT CERVICAL MASS: A CASE REPORT

Diska Astarini1, Karitia Wahyuningtyas1, Nathina Finisana1, Ardhanus Kusumanto1 Obstetrics and Gynecology, Universitas Gadjah Mada - Dr. Sardjito Hospital, Yogyakarta, Indonesia

Problem statement: Embryonal rhabdomyosarcoma (ERMS) of the female genital tract is a rare malignant tumor. The overlapping clinical, radiological and microscopic features make it more difficult to accurately diagnose the disease, especially in resource-limited settings. Due to the rarity of this tumor, there is limited literature on the optimal management and treatment. Method: We report a rare case of a 15-year-old girl referred to our institution with an enlarging mass protruding through her vagina associated with abnormal vaginal discharge. She had normal menstrual cycles. Her past medical history was unremarkable. An examination revealed a protruding mass through the vaginal introitus, thought to be arising from her cervix measured 20 x 15 cm in size. She underwent surgery to remove the mass. Histopathological features prompted initial diagnosis of angiomyofibroblastoma (AMFB). However, she was lost to follow-up until she represented after several months with recurrent excessive growth of the mass. A contrast-enhanced computed tomography (CT) of abdomen and pelvis confirmed the presence of inhomogeneous irregular lesion located at her vagina, which measured approximately 17.23 cm in its widest dimensions, without evidence of metastatic disease. All other measurements were normal. Discussions in a multidisciplinary meeting has been held, she was subsequently underwent total resection of the recurrent mass. Result: Total resection of the mass has performed. There was a grossly huge cervical mass protruding into vagina with surface irregularities measuring 20.5 x 13.5 x 3.7 cm. Histopathological analysis of the hematoxylin and eosin stained material showed spindle-shaped cells with hyperchromatic nuclei and eosinophilic cytoplasm. Immunohistochemically, the neoplastic cells were positive for desmin, myogenin, Myo-D1 and Ki-67. A diagnosis of ERMS was confirmed by an expert pathology consultant. Conclusion: The presence of a protruding mass from the genital tract in adolescents is a gynecological peculiarity and may constitute a malignancy. The difficulty in diagnosing ERMS and other mimics is related to the management and residual of different clinical symptoms. Accuracy of diagnosis in the early stages of the disease is a very favorable prognostic factor, especially in young patients.

CARING FOR PREGNANT WOMEN WITH CANCER: CHALLENGES FOR MIDWIVES

Mario Cardoso1, Tiago Nascimento2, Maria Helena Presado1, Catarina Venancio3 Obstetrics and Gynecology, Centro Hospitalar Tondela-Viseu EPE, Viseu, Portugal

Problem statement: Cancer cases during pregnancy are ever more common, possibly due to cellular deterioration associated with maternity at advanced ages and/or exposure to environmental risk factors. When coupled with...
pregnancy, cancer can raise complex dilemmas, both ethical and therapeutic. It is urgent to attend to women going through these contradictory experiences: pregnancy and cancer. Multidisciplinary care is both a complementary and fundamental resource, with the importance of teamwork at the core of healthcare for women and their respective families when going through this simultaneous experience. Objective: Understand nursing strategies to provide speciality care to pregnant women with cancer. Methods: We developed a descriptive study with a qualitative approach to answer the question “Which strategies should allow a specialist nurse employ when dealing with pregnant women with cancer?”. Semi directive interviews were the primary data collection method, with four interviews being conducted with obstetric specialist nurses from the Lisbon area having previous experience in caring for pregnant cancer patients between October 2019 and March 2020. The results were analysed using the WebQDA® software. Results: The scientific evidence on this subject are scarce. When promoting adaptative behaviour from pregnant women with cancer, specialist nurses consider communication and collaboration with other health professionals as their most relevant strategies—personal care limitations impact how healthcare is provided, with the need to adapt procedures and strategies

Discussion: CHM has a high malignant potential (15%) and invasive mole is preceded by CHM in almost 95% of cases. Thus, clinical and serum hCG levels follow-up is very important after HP confirmation of molar pregnancy. Chemotherapy is very effective but hysterectomy could be necessary in cases of life-threatening bleeding. This 2 cases in perimenopausal women showed the importance of effective contraception method in order to prevent undesired or complicated forms of pregnancy.

ASSESSMENT OF MUCIN-GENERATED ANTI-CARBOHYDRATE ANTIBODIES CROSS - BINDING TO HUMAN CHORIONIC GONADOTROPIN (HCG) AND ITS SUBUNITS

Nino Chikadze1, Mariam Tsvazaridze2, Peter M. Lydyard3,4, Nina Poraklishvili1,3
1Division of Immunology and Microbiology, Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia
2Department of Microbiology and Immunology, Petre Shotadze Tbilisi Medical Academy, Tbilisi, Georgia
3School of Life Sciences, University of Westminster, London, UK
4School of Science and Technology, University of Georgia, Tbilisi, Georgia

Problem statement: Recently we have shown, that majority of patients with ovarian cyst, but not those with ovarian carcinoma have significantly elevated levels of naturally-occurring serum antibodies of IgG isotype against human chorionic gonadotropin (hCG) and its subunits. In non-pregnant individuals elevated levels of hCG are associated with ovarian malignancy playing a role of a growth factor. Assessment of the subclass distribution revealed overwhelming prevalence of IgG2 class, indicating their anti-carbohydrate specificity. We propose, that these naturally-occurring antibodies are cross-reacting with hCG and its subunits through their sugar chains, and are elicited against oligosaccharides of blood group mucins produced by the ovarian cysts. Methods: We chose four commercial antibodies that are produced in response of ovarian cyst mucins and assessed their binding ability to the whole hCGαβ and its subunits - hCGβ, hCGα, hCG C-terminal peptide (hCGβCTP), and hCGβ core fragment (hCGβCF) by a standard enzyme-linked immunosorbent assay (ELISA). These antibodies were specific for the following antigens: SPM522 (Novus biologicals) - to Lewis B Blood Group Antigen; ab212418 (Abcam) to Blood Group Antigen Precursor; ab3968 (Abcam) - to Lewis B Blood Group Antigen; SPM297 (Novus biologicals) - to MUC5AC mucin. All antibodies were used in serial dilutions from 2 μg/ml to 62.5 ng/ml in PBS. Results: ab212418 (Abcam) monoclonal antibody which binds to carbohydrate determinate - Gal1-3GalNAc-R, showed significant cross-reaction with hCGαβ and hCGβ, but not those with IgG2. Interestingly, this antibody did not bind to hCGβCF (Figure 1).

Figure 1: Binding of different concentration of monoclonal antibody ab212418 (Abcam) to hCG and its subunits assessed by ELISA. The other tested antibodies did not show appreciable cross-binding. Our data is the first
SPONTANOUS UTERINE RUPTURE BY TUMOR

Margarida Figueiredo1, Maria Oliveira1, Ferreira Anabel1, Ana Maria Pinto1, Dunkel Rita1

Ginecologia/Obstetricia, Centro Hospitalario do Balio Vouga, Aveiro, Portugal

Problem statement: Uterine leiomyosarcoma is a rare uterine malignancy that arises from the smooth muscle of the uterine wall. Compared with other types of uterine cancers, this tumor is associated with a high risk of recurrence and death, regardless of stage at presentation. Case report: 85-year-old woman with a medical history of hypertension, ischemic stroke, and varicose ulcer of the left lower limb. The patient was admitted to the Emergency Department with the following complaints: abdominal pain and obstipation for 2 days, she also reported anemia, without associated weight loss. On physical examination, the abdomen was distended, tympanized, and painful on superficial and deep palpation, more intense in the left quadrants. TAC-TAP was requested, which revealed “...a structure that is attributed to the uterus, which is distorted with heterogeneous content and gas that suggests the presence of abundant pus.” It also shows rupture of the left uterine wall at the level of the fundus with an adjacent collection, with an abscessed appearance, with about 63 mm in diameter. There is another small abscessed collection at the pouch of Douglas. There is also an abundant pneumoperitoneum with a large amount of gas near the anterior abdominal wall that also extends to the upper abdomen.” It was proposed an exploratory laparotomy with the collaboration of General Surgery and Gynecology. A median laparotomy was performed. A large left pelvic abscess was found, originating from the uterine rupture. The uterine cavity was filled with 3 tumor fragments and necrosis. The tumor was also infiltrating the posterior wall of the bladder, the left pelvic wall, and the sigmoid, making it unresectable. There was no evidence of liver or peritoneal metastasis. The peritoneal cavity, which contained pus in all quadrants, was abundantly washed and, due to the impossibility of tumor resection, the uterus was left under ample drainage. Conclusion: One plausible diagnosis is a Uterine leiomyosarcoma extending beyond the uterus to the bladder, the pelvic wall and the sigmoid, with additional purulent peritonitis and abdominal sepsis. For women with the extrauterine disease, the role of surgery is controversial. I have no conflict of interest.

ENDOMETRIAL ADENOCARCINOMA IN A 36 YEAR OLD: A CASE REPORT

Alison Micallef Fava1*, Olivia Anne Cassar2, Sant Mark1

1, Ob&Gynae, Mater Dei Hospital, Malta, Malta
2, Department of Obstetrics & Gynaecology, Mater Dei Hospital, Malta, Malta

Introduction: Endometrial carcinoma commonly presents in post-menopausal women with abnormal vaginal bleeding. Postmenopausal women comprise 75-80% cases of endometrial carcinoma, with only about 1-8% occurring in women less than 40 years. We report a case of endometrioid adenocarcinoma diagnosed in a 36 year old during her investigation for infertility. Endometrial cancer in the young is most often overlooked and diagnosis poses a challenge in management in these women most of whom wish to preserve their fertility. Case report: A 36 year old nulliparous woman was referred for investigations of infertility. She was overweight (BMI=52.1), with a history of polycystic ovaries. Transvaginal ultrasound showed an endometrial lesion suggestive of polyp. Based on these imaging findings and in view that she was going to start stimulation in IVF cycle, she was considered for hysteroscopy, dilatation and curettage and resection of endometrial lesion. During hysteroscopy a polypoidal area was noted, so direct resection of this area was carried out. Endometrial sampling was also sent for further examination. The pathology report showed foci of complex hyperplasia in the endometrial polyps and moderately differentiated endometrioid endometrial carcinoma in the endometrial curettings. In order to determine staging, a CT chest/abdomen/pelvis and pelvis MRI were carried out. There was no evidence of lymphadenopathy or metastatic disease on CT, while the result of pelvic MRI showed the lesion confined to the uterus with less than 50% myometrial invasion. Management posed a dilemma considering her age and fertility status. Case was discussed at the multidisciplinary meeting and patient was counselled regarding the management. Laparotomy was done with total hysterectomy with bilateral salpingo-oophorectomy. Surgicopathological findings were in keeping with stage 1A according to the International Federation of Gynecology and Obstetrics (FIGO), 2000 classification of endometrial cancer. Conclusion: In the present case it was surprising to see endometrial carcinoma in the younger age group presenting incidentally as part of investigation for infertility. Unopposed estrogen conditions (high BMI, premenopausal anovulation in polycystic ovary syndrome and nulliparous) predispose to endometrial cancer. Endometrial cancer needs to be excluded whenever there are abnormal sonographic findings especially in presence of these risk factors irrespective of age.

COMPARISON OF CERVICAL CANCER PATIENT QUALITY OF LIFE AFTER RADIOTHERAPY AND CHEMOTHERAPY TREATMENT AT PROF DR R D KANDOU GENERAL HOSPITAL

Angela Sarah Sumual1, Bismarck Joel Laihad2, Frank Mitchell M Wajes1

1, Department of Obstetrics and Gynaecology, Student of Medical Faculty of Sam Ratulangi University, Manado, Indonesia
2, Department of Gynecologic Oncology, Prof DR R D Kandou General Hospital, Manado, Indonesia

Problem statement: Cervical cancer is the second most common cancer among females in Indonesia. Radiation therapy and chemotherapy are the current recommended treatment modalities, if surgery is not the eligible option. There are several side effects which can occur when these treatments are initiated. The aim of this study is to compare the major symptoms of radiotherapy and chemotherapy in cervical cancer patients at Prof. Dr. R. D. Kandou General Hospital. Methods: The data was collected by interview, using EORTC QLQ-C 30 (European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core module, consist of 30 question) and EORTC QLQ-CX 24 (European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Cervical Cancer module, consist of 24 question) in a cross sectional study within the period of May to July 2021. The quality of life between chemotherapy and radiotherapy patients was evaluated using the Man Whitney U tests. Results: From 104 patients with cervical cancer whom had completed radiotherapy (n=75) or chemotherapy (n=29) regiments, major post-radiotherapy symptoms include: abdominal cramps (20%), anxiety (20%), need to rest (14.7%), pain (14.7%), finger numbness (13.3%), vaginal discharge (13.3%) and other complaints (4%). On the contrary, major post-chemotherapy symptoms include: lack of appetite (34.5%), pain (31%), anxiety (24.1%), nausea
Aspivix device alone strongly agreed that they were overall participants, who had the IUD insertion achieved with no pain while the Aspivix ™ device was applied. The practitioner reported spontaneous releases of the device from the grasped tissue. No bleeding or only limited bleeding therefore representing an obstacle for patients to pursue this contraceptive. Aspivix™ is a new device, designed to deliver atrumatic cervical traction via suction technology while respecting the semi-circular anatomical shape of the cervix. The pilot study is single arm alignment of uterine cervix with vaginal canal is often required during intrauterine contraceptive device (IUD) insertion. The standard of Care - the tenaculum, could cause pain, bleeding therefore representing an obstacle for patients. The usability of the device in a minimum of 10 women received IUD using this atrumatic device. We prospectively collected the device efficacy (ability to insert IUD with Aspivix™ device alone without recourse to conventional tenaculum), usability (number of placements attempts before traction can be applied, number of spontaneous releases), safety (adverse events, cervical bleeding and ecchymosis), patient-reported pain scores at specific time points (before and after IUD insertion) and patient satisfaction. 13 participants were included. 11 participants had a successful IUD insertion, 7 with Aspivix TM device alone (54%) and 4 after switch to standard single tooth tenaculum. 2 out of 13 participants (15%) experienced IUD insertion failure irrespective of the device used – Aspivix and tenaculum - due to cervical stenosis. The usability of the device was satisfactory in 77%. In 9 out of 13 cases, the practitioner reported spontaneous releases of the device from the grasped tissue. No bleeding or only limited ecchymosis were caused by the Aspivix™ device. No adverse events were reported. Participants reported almost no pain while the Aspivix™ device was applied. The participants, who had the IUD insertion achieved with Aspivix device alone strongly agreed that they were overall satisfied with the procedure. The Aspivix device can be considered as a non-surgical treatment for Pelvic Organ prolapse (POP) in elderly women with prolapse symptoms as bulging, pelvic pressure and voiding or urinay difficulty. Most of the patients referred to be comfortable with this device. One of the problems with pessary use in long-term users is the vaginal bleeding specially in women with severe genital atrophy. In these cases, removing the pessary for two weeks and topic estrogens applications are required. In rare cases the bleeding cannot be stopped.

**Methods and Results:** Description of a case report of an argon plasma coagulation for management of persistent vaginal bleeding in postmenopausal woman with vaginal pessary: a case report

**Problem statement:** Ring pessaries are commonly considered as a non-surgical treatment for Pelvic Organ prolapse (POP) in elderly women with prolapse symptoms as bulging, pelvic pressure and voiding or urinay difficulty. Most of the patients referred to be comfortable with this device. One of the problems with pessary use in long-term users is the vaginal bleeding specially in women with severe genital atrophy. In these cases, removing the pessary for two weeks and topic estrogens applications are required. In rare cases the bleeding cannot be stopped.

**ARGON PLASMA COAGULATION FOR MANAGEMENT OF PERSISTENT VAGINAL BLEEDING IN POSTMENOPAUSAL WOMAN WITH VAGINAL PESSARY: A CASE REPORT**

Nieves Climent1, Judit Albareda1, Alicia Palacín, Alicia Palacín2, Luis Iglesias1, Almudena Soriano1

1Gynecology, Hospital Universitario Fundación Alcorcón, Alcorcón, Spain
2Advanced Pain Management Center, Cimeg Madrid, Urogynecology and Pelvic Pain Disease Unit., Ibermedicare Sl. Vithas International Hospital. Complutense University. Comillas University., Madrid, Spain

Condylyomatosis acuminata or Genital Warts are the clinical expression of infection by certain types of human papillomavirus (HPV) considered low oncogenic risk (No. 6 and 11). Currently, they are considered one of the most frequent sexually transmitted diseases with an increasing incidence in most populations. There are multiple forms of presentation and extension of the lesions (from very localized forms with a low volume of disease or very extensive tract). The clinical case is a young woman, 26-year-old patient who came to our office at CIMEG MADRID in August 2020 presenting multiple vulvar condylomatous lesions previously evaluated and treated in a dermatological center with local cryotherapy and sinecatechin (veregen) ointment 2 times a day at home; she decides to seek another medical opinion.

**Ethnicity:** Latin American.

**Personal pathological history:** no chronic diseases.

**Smoker:** Yes (3-6 cigarettes a day).

**First sexual relations:** 16 years.

**No. of sexual partners:** 4.

**Previous pregnancies:** No.

**Contraceptive method:** No

**Provides cervical cytology:** benign changes in June 2020. In our unit, after adequate physical and colposcopic examination we decided to start local therapy with ErYag Laser (Fotona laser) with a wavelength of 2940nm together with Local Vulvar Papilocare Gel as an adjunct to local laser therapy, to help re-epithelialize and hydrate the area due to the composition of the gel like for example: Hyaluronic acid niosome providing hydration and elasticity. Coriolus Versicolor: re-epithelializes genital lesions with Local Vulvar Laser Therapy with Papilocare vulvar gel; It was suitable for this patient with a satisfactory evolution with total elimination of the lesions and absence of recurrences 6 months after treatment. (iconography, before and after treatment). Sometimes, the absence of a single effective therapy for all patients forces us to individualize when choosing between the different available procedures (excisional, destructive, topical, etc.). The nature of the disease, and the fact that it is linked to sexual transmission, cause a great physical, emotional and psycho-sexual impact among affected patients, so we must insist on the adolescent population to comply vaccination.

**ARGON PLASMA COAGULATION FOR MANAGEMENT OF PERSISTENT VAGINAL BLEEDING IN POSTMENOPAUSAL WOMAN WITH VAGINAL PESSARY: A CASE REPORT**

Nieves Climent1, Judit Albareda1, Alicia Palacín, Alicia Palacín2, Luis Iglesias1, Almudena Soriano1

1Gynecology, Hospital Universitario Fundación Alcorcón, Alcorcón, Spain

**Problem statement:** Ring pessaries are commonly considered as a non-surgical treatment for Pelvic Organ prolapse (POP) in elderly women with prolapse symptoms as bulging, pelvic pressure and voiding or urinay difficulty. Most of the patients referred to be comfortable with this device. One of the problems with pessary use in long-term users is the vaginal bleeding specially in women with severe genital atrophy. In these cases, removing the pessary for two weeks and topic estrogens applications are required. In rare cases the bleeding cannot be stopped.

**Methods and Results:** Description of a case report of an...
82 year old woman with a persistent vaginal bleeding because of vaginal erosions caused by her pessary. She had a personal history of abdominal hysterectomy and vaginal vault during the last 14 years. She also had the risk factor of severe vaginal atrophy and her chronic anticoagulation treatment. The pessary was removed and silver nitrate on the vaginal surface was applied. Despite the vaginal tamponade the woman continued bleeding. In the end, the bleeding was successfully managed using Argon Plasma Coagulation (APC) directly on the surface of the vaginal mucosa. **Conclusion:** Argon Plasma Coagulation is an electrosurgical thermal ablation technique used to achieve hemostasis in bleeding. This technique has been described as a good alternative for digestive ulcers, digestive bleeding tumors and also in hemoptysis. The APC induces immediate resolution of bleeding and improvement of effectiveness. It is a safe, cheap and easy technique for acute haemorrhage. The Argon Plasma Coagulation can be considered as an optimal treatment for persistent vaginal bleeding in women pessary users.

The author declares no conflict of interest in this article.

**TRAUMATIC CLOACA AFTER COMPLICATED VAGINAL DELIVERY: A CASE REPORT**

Nieves Climent1, Laura Vega1, Mar Pardo1, Irene Coronado1, Miriam Gallego1
Obstetric and Gynecology, Hospital Universitario Fundacion Alcorcon, Alcorcon, Spain

**Problem statement:** To assess the anatomic and functional results of surgical treatment of traumatic cloaca after reconstructive surgery of the perineal body and rectovaginal septum using the puborectal and external sphincter muscles. **Method:** A clinical case of a 70-year-old woman submitted to surgical treatment for correction of the cloaca. Physical examination, diagnostic tests, symptoms and Quality of life score were completed before and 6 months after surgery. **Results:** Traumatic cloaca is a severe obstetric complication characterized by an anatomic deformity of the anus and vagina caused by the severe damage of the sphincter and perineal body. We describe the anatomic and functional outcomes after reparation of a traumatic cloaca which had occurred 33 years earlier after seven vaginal deliveries at her home. The patient had an open rectovaginal communication with a large anterior sphincter defect and fecal incontinence. The patient had a complete disruption of the perineum, anal canal, short length vagina, and rectum, with a mean internal and external sphincter defect of 195 degrees. Those suffering from a cloaca have severe fecal incontinence and symptoms similar to a rectovaginal fistula because of the lack of the distal rectovaginal septum. Consequently, the woman suffered from grave perineal skin irritation and recurrent vaginal and urinary tract infections. Furthermore, absence of sexual activity or dyspareunia leads her to social isolation, alterations in the body image, depression and a poor quality of life. The surgery performed in this case was a CORMAN technique and sphincteroplasty. Anatomic recovery and fecal continence restoration have been accomplished completely by a follow-up at 6 months. Preoperative Fecal Incontinence Wexner Score was 20 and postoperative was 6 Also the Epidemiology of Prolapse and Incontinence Questionnaire-EPIQ showed the clinical improvement. **Conclusion:** The layered repair of the anovaginal structures including internal and external sphincteroplasties is an optimal technique for treating a cloaca deformity and restores the anatomy, the sexual activity and the urofetal functions with low rates of complications and excellent quality of life score. **The author declares no conflict of interest in this article.**

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**0.005% ESTRIOL VAGINAL GEL IN THE PREVENTION OF RECURRENT URINARY TRACT INFECTION AND ASSOCIATED OUTCOMES IN POSTMENOPAUSAL WOMEN**

Nuno Muñoz Fernandez1, Jose Ignacio Pardo Gonzalez de Quevedo2, Javier Rosado Martin3, Carmen Cuevas Castillo4, Concepcion Nieto Magro6
1Primary Care, MedClinic Specialist Center, Madrid, Spain
2Primary Care, Fuengirola Medical Center, Fuengirola Medical Center, Malaga, Spain
3Primary Care, Reina Victoria Primary Care Center, Madrid, Spain
4Medical Department, ITF Research Pharma, Alcobendas (Madrid), Spain

**Problem statement:** Genitourinary Syndrome of Menopause (GSM) is associated with an increased rate of urinary tract infections (UTIs). In fact, it is estimated that the annual incidence of UTIs among women older than 50 years is around 9%. Topical estrogens such as 0.005% estriol vaginal gel show a clear benefit for relieving genitourinary symptoms but the effect in prevention of UTIs is yet to determine. **Methods:** Postmenopausal women between 45 and 80 years with vaginal dryness and a history of recurrent UTI (rUTI: ≥ 2 in 6 months or ≥3 in 12 months) were eligible for this randomized, double-blind placebo-controlled study. Number and incidence rate of UTIs (based on clinical parameters and microbiological confirmation), asymptomatic bacteriuria, as well as vaginal pH, symtomatology, antibiotic use and tolerability were determined at baseline, 3, 6, 12, 18 and 24 weeks visits. Additionally, extra visits were performed when urinary symptoms appeared. **Results:** 108 women, 53 with estriol and 55 with placebo were included in the study. 50 µg estriol vaginal gel significantly reduced the incidence rate of urinary tract infections (per 100 person and year) 25% as compared to placebo (0.32 vs 0.44, p<0.0001). Accordingly, the incidence rate of asymptomatic bacteriuria was also significantly decreased (p=0.0469). These results were further sustained by the reduced need of non-programmed visits and the low antibiotic use in women that received estriol. Tolerability was comparable between treatment groups. All women considered treatment tolerability as good, very good or excellent at the end of the study. **Conclusions:** Ultra-low dose 0.005% estriol vaginal gel significantly reduced the incidence rate of both urinary tract infections and asymptomatic bacteriuria in postmenopausal women with rUTI, showing an overall benefit in clinical and microbiological results. Treatment with 50 µg estriol was also associated with favorable evidence regarding other relevant related clinical outcomes such as the need of additional consultations for UTI symptoms.

**UTERINE FIBROIDS AND CLINICAL DECISION MAKING - WHEN SHOULD PELVIC MRI BE ORDERED?**

Frederick Eruo1, Zainab Almusawi2, Manar Edris2
1Department of Obstetrics and Gynecology, Beaumont Hospital, Dearborn, USA
2School of Medicine, Wayne State University, Detroit, USA

**Background:** Hysterectomies are the most common major gynecological surgeries performed worldwide. Indications for hysterectomy include uterine fibroids, abnormal uterine bleeding, chronic pelvic pain, uterine prolapse, and carcinoma of the endometrium or the cervix. The clinical decision to proceed with hysterectomy is made on a case-by-case basis and a shared decision making with the patient. **Case Report:** A 44-year-old woman presented to the hospital with vaginal bleeding, pelvic pain and dizziness. She had a 10-year history of passing large blood clots with menstruation lasting 7-10 days. Clinical examination showed morbidly obese cooperative lady, pale, anicteric and abdominal examination that was limited by body habitus. Laboratory evaluation showed hemoglobin of 6.2 gm with iron studies indicative or iron deficiency anemia as well. Ultrasound of the pelvis revealed multiple leiomyomatous changes of the uterus with the largest discrete fibroid measuring 8.5x8.5 x11.2cm. She was admitted into the hospital, received blood transfusion and endometrial biopsy that showed no endometrial hyperplasia. She was discharged home on oral iron supplementation. At follow up appointment, after extensive
discussion regarding her options and alternatives, she had no desire for more children and chose to have hysterectomy. She had two previous cesarean sections - relative contraindication to endometrial ablation, moreover, endometrial ablation may not be appropriate treatment for multiple fibroids. She was prescribed Leuprolide 3.5 mg monthly for 3 months in an attempt to shrink the fibroids. Informed/signined consent on chart for robotic-assisted hysterectomy with bilateral salpingo-oophorectomy (BSO) on chart. At time of surgery the uterus measured over 22-weeks size with multiple fibroids. Surgery was converted to total abdominal hysterectomy with BSO due to uterine size, pelvic adhesions and endometriosis. Her postoperative course was uncomplicated. Discussion: There are other options for management of uterine fibroids such as uterine artery embolization (UAE), focused ultrasound surgery (FUS) however, she chose hysterectomy. Evaluation of patients with fibroid can be challenging especially in the morbidly obese patient. She had pelvic ultrasound that gave impression of a 12 to 14-week size uterus but turned out to be over 22-weeks in size. Therefore, when should pelvic magnetic resonance imaging (MRI) be ordered for uterine fibroids?

EFFICACY AND SAFETY OF THE ERBIUM YAG SMOOTH® VS. LESS INVASIVE SURGERY IN THE TREATMENT OF URINARY INCONTINENCE IN WOMEN

Ivan Fistonic1, Nikola Fistonic2

1Ob/Gyn, Institute for Women’s Health, Zagreb, Croatia
2Ob/Gyn, University Hospital Merkur, Zagreb, Croatia

Noninvasive solutions, as behavioral treatments, pelvic floor muscle training and functional electrostimulation of the pelvic floor (FES) are recommended as first-line management strategies for (stress) urinary incontinence (SUI) in women. Less invasive mesh techniques are relatively effective, but are not immune to complications such as bleeding, bladder perforation, urethral injury, infection, and the retention requiring mesh resection. In patients for whom the risks of anesthesia and surgery are too high, a minimally invasive approach with shorter recovery times and lower implicated costs is recommended. In this sense, recent evidence supports laser treatment as an alternative and effective intervention for SUI. Since 2015 many clinical studies have shown the advantages of different energy-based devices (EBD) for the treatment of SUI/genitourinary syndrome of menopause (GSM). Most studies have referred to the use of nonablative Er:YAG SMOOTH® laser for the treatment of SUI and mixed urinary incontinence (MUI), and both Er:YAG and CO2 lasers in the treatment of GSM. Head to head studies showed that Er:YAG SMOOTH® therapy improve urinary incontinence in women as effectively as the tension-free vaginal tape (TVT) and transobturator tape (TOT) procedures. For patients with mixed urinary incontinence (MUI), some in the TVT and TOT groups showed exacerbation. However, all patients in the laser therapy group tended to improve. Vaginal erbium laser (VEL) safely and effectively improve overactive bladder symptoms score (OABSS) compared to common pharmacotherapies, anticholinergics and β3-adrenoceptor agonists, however through a different mechanism. VEL improves blood flow in the bladder, urethra, and vaginal wall reducing OABSS without adverse effects typical for medication. Comparative study showed that Er:YAG SMOOTH® deliver equal significant reduction in SUI, both in hysterectomized and non-hysterectomized patients. For achieving efficacy and safety it is important to follow proper protocol. However, prospective randomized placebo controlled trials are needed with a larger number of participants in order to assess the effectiveness of laser treatment in SUI symptoms with a longer follow-up period.

ASYMPTOMATIC MICROPERFORATED TRANSVERSE VAGINAL SEPTUM

Marilia Freixo1, Elisa Soares1, Maria Coelho1, Ana Rita Pinto1, Cristina Oliveira1

Gynaecology, Centro Hospitalar Tâmega E Sousa, Penafiel, Portugal

Problem statement: Transverse vaginal septum is a rare type of Mullerian anomaly with an incidence of 1 out of 70,000 females. It results from failure of the canalization of the vaginal plate to the point where the urogenital sinus meets the mullerian duct and usually presents at menarche with symptoms of outflow tract obstruction. Patients with a perforated septum often have normal menses and usually present with difficulties with intercourse or infertility.

Methods: We present a case report of a 27-year-old woman with an asymptomatic perforated transverse septum who underwent surgical treatment. Results: 27-year-old nulliparous woman attended the gynecology for a routine assessment. She reported regular menstrual cycle 3/4/30 days, changing 2-3 pads per day, and no history of clots or dysmenorrhea. On examination there was a blind vagina with a pin hole opening in the center (2-3mm). Based on clinical examination finding, a provisional diagnosis of transverse vaginal septum was made. Transvaginal ultrasound showed haematocolpos, normal uterus, cervix and ovaries. MRI showed a thin low signal intensity structure in T2W image, measuring a thickness of 7.5mm which is 3cm from the introitus with a small fenestration. Proximal and midportion of the vagina appeared normal. The surgery was planned with hysteroscopy support. Has been viewed a septum with a small hole with menstrual blood flowing out. The septum was sectioned transversely, opened with a 5fr bipolar electrode and then completely excised circumferentially by electroscopy. Application of hyaluronic acid was prescribed to prevent the risk of stenosis, and an early return to sexual activity was recommended. Post-operative recovery was good and uneventful and the vagina healed well without stricture formation. Conclusion: Imperforate obstructive vaginal malformations can be easily diagnosed and may be likely to cause retrograde menstruation, which in turn impedes outflow of menstruation and leads to hematocolpometra and amenorrhea. In the present case, the septum was located at the upper part of the vagina and the couple had no complaint of coital quality. The patient also had no complaints of dysmenorrhea or amenorrhea, possibly owing to incomplete obstruction of the vagina. In our case, the vaginoscopic approach using a hysteroscope for the septum resection is available, feasible, convenient, and effective tool.

THE EFFICACY OF LOCAL TRANEXAMIC ACID USE IN BLEEDING MANAGEMENT OF MYOMA UTERI SURGERY: A SINGLE-CENTER PROSPECTIVE STUDY

Zelal Rojda Gungordu1, Oguz Devrim Yardmcı1, Mesut Polat2, Taner Gunay1, Ergül Demirciçi Bor1, Ates Karateke2

1Obstetrics and Gynecology, Istanbul Medeniyet University, Goztepe Research and Training Center, Istanbul, Turkey
2Obstetrics and Gynecology, Atasehir Memorial Hospital, Istanbul, Turkey

Portugal

Discussion: There are other options for management of uterine fibroids such as uterine artery embolization (UAE), focused ultrasound surgery (FUS) however, she chose hysterectomy. Evaluation of patients with fibroid can be challenging especially in the morbidly obese patient. She had pelvic ultrasound that gave impression of a 12 to 14-week size uterus but turned out to be over 22-weeks in size. Therefore, when should pelvic magnetic resonance imaging (MRI) be ordered for uterine fibroids?
Problem statement: Per-operative bleeding is one of the major problems that can be seen during myomectomy surgery. In cases of severe bleeding, hysterectomy may be indicated to maintain bleeding control. It is aimed to reveal the effectiveness of local tranexamic acid (TA) use in bleeding control of myoma uteri surgery. A total of 79 patients scheduled for open surgery with the diagnosis of myoma uteri between 2017 and 2019 were included in the present study. As a prospectively designed analysis, the test group(n=19) who underwent myomectomy with local TA application and compared with the control group(n=20) who received myomectomy without local TA application in terms of demographic characteristics of the patients, clinical findings (laboratory measurements, per-operative bleeding, blood transfusions, length of hospital stay, complication rates). Patients with a history of hysterectomy and the ones who were operated for malignancy were not considered for evaluation. Results: Thirty-nine patients were included in the study. The calculated mean age was 39.95 years (Test group: 40, control group: 39.9). Per-operative average transfusion rate was 5.3% in the test group and 5% in the control group (p=0.899;p<0.05). The use of transamine didn't provide significant benefit in terms of bleeding compared to the control group (p=0.899;p<0.05). Conclusion: This is the first study in relevant literature evaluating local TA use in myomectomy surgery. Local TA use in myomectomy surgery has provided no clinical benefit in terms of bleeding control.

Disclosure statement: None declared.

ACUTE NON-PUERPERAL UTERINE INVERSION DUE TO MYOMA GEBURT : A RARE CASE REPORT
Arvand Marthin Moniaga1, Rudy Arnold Lengkong1, Disilh Imelda Lingkan Panelewenz
Obstetric & Gynecology, Dr. R. D. Kandou General Hospital, Manado, Indonesia

Problem statement: The purpose of this case report is to know how to diagnose and treat acute non-puerperal uterine inversion due to myoma geburt. Methods: Case report. Results: A 43-year-old nullipara, came to the hospital for vaginal bleeding in the past 5 hours. Since 2 months ago she recurrently experienced this complaint. She had been complaining a big mass in her vagina since 2 months ago which revealed 5 hours before admission. The significant physical findings was a mass revealed from vagina sized 23 x 15 cm, smooth surface with pus and necrotic tissue, firm consistency, well demarcated, protruding from the vaginal introitus. The cervix can’t be evaluated. We performed a transvaginal uterine excision, reposited after removing the mass. The surgery uncovered a mass size 23 x 15 cm, which was one of the largest mass that have been reported. The pathology examination result is leiomyoma uterine with hyalinosis. The patient was examined 1 week and 3 months after the surgical operation. The gynecology examination the inspection was normal, there is no blood or flour, smooth cervix with closed ostium external of uterus. Conclusion: Initial assessment and resuscitation would be the priority as some patients may be in septic or in hemorrhagic shock, followed by correction of anemia, pain relief, and starting antibiotics. The type and approach of surgery should be individualized considering the age, desire for future fertility, etiology, and the stage of the disease in case of malignancy. In this case we performed a transvaginal uterine excision, reposited after removing the mass. The final outcome of surgery is repositioning uterine into anatomy position. Non-puerperal uterine inversion is an exceptional and life-threatening disease that most gynaecologist will rarely encounter in their career. Careful examination will yield correct diagnosis and treatment that would help to decrease patient morbidity and mortality.

ASSESSMENT OF QUALITY OF LIFE IN WOMEN WITH MULTIPLE SCLEROSIS AND SEXUAL DYSFUNCTION
Oksana Nehrych1, Vira Pyryhova1, Tetjana Nehrych2, Nazar Negrych2
1Department of Obstetrics, Gynecology and Perinatology FPGE, Danylo Halutsky Lviv National Medical University, Lviv, Ukraine
2Department of Neurology, Danylo Halutsky Lviv National Medical University, Lviv, Ukraine

Problem statement: Multiple sclerosis (MS) is often associated with sexual dysfunction, which increases due to disease progression. The first symptoms of MS occur at the age of 20 to 40 years, when sexual function (SF) is particularly important for patients, and sexual dysfunction can affect the realization of reproductive function and quality of life. Scientific studies report a significant (40-80%) prevalence of sexual dysfunction among women with MS, but at the same time insufficient attention of doctors to the diagnosis and treatment of sexual dysfunction. Methods: 98 women of reproductive age with a confirmed diagnosis of multiple sclerosis were examined. All study participants completed the MSQOL-54 (Multiple sclerosis quality of life questionnaire) and the sexual dysfunction questionnaire. The results of the questionnaires were evaluated on a scale, where the highest score corresponded to normal sexual function, and the lowest - to pronounced changes. According to the results of the survey, patients were divided into two groups: with a violation of SF and with normal SF and we compared the quality of life of women in both groups. Results: Sexual dysfunction was found in 76% of subjects, of whom 24% had severe changes. Among sexual disorders, the absence of sexual desire (39%) and less intense orgasms (27%) predominated. Women with MS reported dissatisfaction with their sex lives in 63% and deterioration in sexual function in 41% after being diagnosed with MS. Patients with MS in combination with sexual dysfunction showed a worse quality of life by 8.6 points compared with women without SF disorders. Conclusion: Due to the high prevalence and negative impact on quality of life, it is necessary to advise patients on the possibility of developing sexual dysfunction at the stage of establishing the MS diagnosis and to ensure further monitoring of SF for timely detection and correction of disorders.

THE BENEFICIAL EFFECT OF A COMBINATION OF SOY ISOFLAVONES, 8-PREGNYL-NARINGINENE (8-PN) AND MELATONIN FOR IMPROVING THE QUALITY OF LIFE OF POSTMENOPAUSAL WOMEN WITH HOT FLASHES.
Carmela Puchol Estrugo1, Joaquin Grande Gomez2, Miriam Trujillo Rodriguez3, Vanesa Garrido Estevez4, Paula Saul Leaf5, Javier Leal Martinez-Bujanda6, Concepcion Nieto Magro1
1O&G, Clínica Dra Puchol, Gandia, Spain
2O&G, Hospital San Rafael, Madrid, Spain
3O&G, Centro Casanovas, Barcelona, Spain
4Medical Affairs, ITR Research Pharma, Alicobendas, Spain

Problem statement: Vasomotor symptoms (VMS) negatively affect health-related quality of life (QoL) of peri- postmenopausal women. Phytoestrogens can exert favourable effects and alleviate hot flashes and other VMS in these women, however evidence to guide clinical recommendations is inconsistent. This study aims to demonstrate the effect of Flavia Nocta (a combination of 54mg of soy isoflavones ~24.5mg genistein~, 100µg of 8-PN and 1mg of melatonin) on the QoL of postmenopausal women with hot flashes. Methods: Women with moderate to severe hot flashes (at least 5 daily or 35 weekly) were included in this multicentric, prospective, open-label study. All women received one capsule of Flavia Nocta every day over 12 weeks. Number and intensity of hot flashes were registered in a diary completed daily and evaluated at
baseline, 4 and 12 weeks of treatment. QoL was evaluated at same timepoints with the Menopause-specific QoL Questionnaire (MENQOL) – 29 questions in 4 domains, range 1-8 each, 8 meaning worst-, and Cervantes Scale - 31 questions in 4 domains; global punctuation 0-155, 0 meaning worst-. Tolerance and acceptability were also assessed. Results: Forty women aged 53.4(5.1) years - mean(SD)- were included. After 12 weeks all MENQOL domains had significantly improved from baseline (p<0.001): vasomotor 7.22(1.0) to 4.24(1.0); psychosocial 3.84(1.9) to 2.83(1.5); physical 4.93(1.6) to 3.71(1.4); and sexual 5.26(4.6) to 4.61(1.7); meaning improvements of 41%, 26%, 25% and 7%, respectively. Similarly, this favourable effect of Flavia Nocta over QoL was evidenced in the Cervantes Scale: significant improvements were shown in the global punctuation 77.21(26.0) to 51.63(28.2); menopause domain 46.8(12.9) to 29.4(14.9); and psychic domain 16.4(10.0) to 9.37(7.7); translating improvements of 35%, 39% and 52%, respectively (p<0.001). Conclusions: 54mg of soy isoflavones-containing 24.5mg genistein-, 100µg of 8-pregnynyl-naringenine and 1mg of melatonin shows a substantial and clinically significant effect for improving the quality of life of postmenopausal women with hot flashes. The important alleviation of vasomotor symptoms (hot flashes, nocturnal sweats, sleeping difficulties) produced by this combination may contribute to the improvements in the women’s physical and psychosocial spheres which are essential for their well-being also in this period of their lives.

SOY ISOFLAVONES, 8-PREGNYNYL-NARINGENINE (8-PN) AND MELATONIN REDUCE HOT FLASHES IN POSTMENOPAUSAL WOMEN
Miriam Trujillo Rodriguez1, Joaquina Grande Gomez2, Concepcion Nieto Magro3, Javier Leal Martinez-Bujanda4, Carmen Cuevas Castillo5, Vanesa Garrido Estevez6, Carmela Puchol Estrugo2
1G&G, Centro Casanovas, Barcelona, Spain
2G&G, Hospital San Rafael, Madrid, Spain
3Medical Affairs, ITF Research Pharma, Madrid, Spain
4G&G, Clinica Dra Puchol, Madrid, Spain

Problem statement: Hot flashes are the most common symptom of menopause and may persist for several years. They can affect quality of life (QoL), but also contribute to sleep and mood disturbances, which can potentially affect daily activities. The lack of acceptance of hormonal therapy due to concerns about its safety has led to popularization of alternative therapies. This study aims to demonstrate the effect of Flavia Nocta (a specific standardized extract of 54mg of soy isoflavones –24.5mg genistein–, 100µg of 8-pregnynyl-naringenine and 1mg of melatonin) over hot flashes and the QoL of postmenopausal women. Methods: Postmenopausal women with moderate to severe hot flashes (at least 5 daily or 35 weekly) were included in this multicentric, prospective, open-label study. All women received one capsule of Flavia Nocta every day over 12 weeks. Number and intensity of hot flashes were registered in a diary completed daily and evaluated at baseline, 4 and 12 weeks (w) of treatment. QoL was evaluated at same timepoints with the Menopause-specific-QoL Questionnaire (MENQOL) and Cervantes Scale. Tolerance, safety and acceptability were also assessed. Results: Forty women [age 53.4(5.1) years -mean(SD)-; BMI 25.27(3.49) kg/m2] were included. A significant decrease in the total number of weekly hot flashes was observed, from 43.25(30.0) at 4w (33% reduction; p<0.0001) and 25.74(27.2) at 12w (60% reduction; p<0.0001). Moderate and severe hot flashes were also significantly reduced, from 55.63(15.5) at baseline to 32.66(21.1) at 4w (38% reduction; p<0.0001) and 13.47(15.8) at 12w (76% reduction; p<0.0001). All four domains of MENQOL as well as the menopause, psychic and couple domains and global punctuation of the Cervantes Scale were significantly improved after 4 and 12w. No treatment-emergent adverse events occurred. Tolerability and acceptability were mostly considered very good or excellent by women. Conclusions: This study suggests that a standardized extract of 54mg of soy isoflavones – including 24.5mg of genistein–, 100µg of 8-pregnynyl-naringenine and 1mg of melatonin is a well-tolerated nonhormone therapy that produces a rapid and substantial reduction of hot flashes associated with menopause. Moreover, this combination produces a clear improvement in the well-being and QoL of these mid-life women.

POSTMENOPAUSAL BLEEDING AS A SYMPTOM OF ENDOMETRIAL ACTINOMYCOSIS IN THE ABSENCE OF INTRAUTERINE CONTRACEPTIVES AND WITH ALLERGY TO PENICILLIN
Tanja Petronijevic
Department Of Obstetrics, General Hospital Valjevo, Valjevo, Serbia

This case study focuses on a 66-year-old patient, allergic to penicillin, with endometrial actinomyces, with no history of intrauterine contraceptive (IUD) administration, with symptomatology in the form of postmenopausal uterine bleeding and lower pelvic pain. Endometrial actinomyces is an infection that occurs rarely, accompanied by non-specific symptomatology. The diagnosis is based on histological examination of affected tissue sample. The treatment is conducted with antibiotic therapy, administering high doses of intravenous antibiotics and, in certain cases, surgical treatment, as was the case in our patient.

Keywords: actinomycosis, postmenopausal bleeding, intrauterine contraceptive device

RESULTS OF TREATMENT WITH MYO-INOSITOL AND D-CHIRO-INOSITOL COMBINATION IN RATIO 5:1 IN WOMEN WITH CLINICAL AND BIOCHEMICAL HYPERANDROGENEMIA ASSOCIATED WITH POLYCYSTIC OVARY SYNDROME
Victoria Prilutskaya1, Olga Alyautdina1 Obstetrics and Gynecology #1, I.M. Sechenov First Moscow State Medical University (Sechenov University), Moscow, Russia

Problem statement: Hyperandrogenemia is a part of the polycystic ovary syndrome (PCOS), which occurs in 5-15% of women of reproductive age. The most common complaints at a gynecologist’s appointment are menstrual disorders, hirsutism, acne and alopecia. The objective was to compare the effectiveness of the combination of myo-inositol (MI) and d-chiro-inositol (DHI) in a ratio 5:1 and standard antiandrogenic therapy (COC containing ethinylestroadiol 0.02 mg with drospirenone 3 mg) for the treatment of clinical and biochemical hyperandrogenemia, as well as to assess the degree of anxiety on the Spielberger-Khanin anxiety scale before and after therapy. Methods: Patients of the main group (N=53, aged 26.6±3.62) received an oral combination of 1000 mg MI and 200 mg DHI in a ratio of 5:1, 2 times a day after meals. Patients of the control group (N=55, aged 27.1±2.54) received COC for 6 months. The assessment of hirsutism on the Ferriman-Gallway (FG) scale, the severity of acne on the G. Plewig, M. Kligman scale were carried out initially and 2 months after the discontinuation of therapy. Results: There was a decrease in the levels of androgens in the serum blood in both groups. In the main group, the cancellation of therapy occurred in 1 patient due to nausea vs in 5 patients in the control group due to the occurrence of headaches (n=2), increased libido (n=1), a form of stopping of an antinausea medication (n=1). A decrease in hirsutism on the FG scale was greater receiving COC (from 10.4±4.3 to 7.7±3.6, p<0.04) than inositols (from 10.1±3.9 to 8.9±3.7, p=0.076). After 6 months of therapy, there was a decrease in the severity of acne in both groups. However, in the first month after the withdrawal of COC, 35% of patients had an exacerbation of acne vs 10% in the main group. An improvement in the psychoemotional state of the patients due to a decrease in anxiety was more common in group 1 than in group 2. Conclusion: The results of the study showed that the combination of MI with DHI in a ratio 5:1...
can be considered as an effective alternative therapy for the treatment of hyperandrogenemia in patients with PCOS.

ENDOMETRIOSIS HIDDEN BEHIND MENOPAUSE

Mariana Robalo Cordeiro1, Beatriz Ferro2,3, Barbara Laranjeiro1, Margarida Figueiredo-Dias1,2
1Gynecology Department, Coimbra University Hospital Center, Coimbra, Portugal
2University Clinic of Gynecology, Faculty of Medicine of the University of Coimbra, Coimbra, Portugal

Problem statement: Endometriosis, believed to be an estrogen-dependent chronic inflammatory disease, classically affects women of reproductive age. The occurrence of de novo endometriosis diagnosis in postmenopausal women has recently suggested a shift in this paradigm. The pathophysiology and clinical management of this condition remain a challenge. The present study aims to contribute to a better understanding of endometriosis after menopause. Methods: A total of 367 patients with histologic evidence of endometriosis were included in this cross-sectional study. Pearson linear correlations with collected data and further qualitative synthesis statistics were performed using IBM® SPSS® v27. Results: The study sample included 9 cases (2.45% prevalence) of postmenopausal de novo endometriosis diagnosis. Mean age at endometriosis diagnosis was 60 years [50-85]. Mean time interval between endometriosis and menopause diagnosis was 6 years [1-28]. Mean BMI was 25.43 Kg/m² [21.0-40.16]. One patient was under menopausal hormone therapy (MHT) with Low dose oral combined therapy. Two patients were symptomatic: one of them, who was under MHT, reported pelvic pain, and the other one reported dyspareunia. In the remaining asymptomatic patients, endometriosis was suspected from routine pelvic ultrasound findings of ovarian masses (n=3) and from surgical incidental findings during hysterectomy due to benign uterine disease (n=4). Ovarian localization prevalence was 77.78%. Nevertheless, a weak correlation was observed between CA-125 values and ovarian endometriosis localization (r=0.180, CI95% [-0.99;0.39]). All patients were submitted to surgical treatment: bilateral adnexitomy (n=4), total hysterectomy with bilateral adnexectomy (n=4) and cystectomy (n=1). No patient underwent hormone therapy after surgical treatment and none of them reported recurrence of symptoms or endometriotic lesions. One patient was diagnosed with clear-cell ovarian carcinoma at the same time of endometriosis diagnosis and was the one with the highest CA-125 values. Conclusion: This study highlights the lack of robust data related to endometriosis in postmenopausal women. Diagnosis of endometriosis and the risk of malignant transformation in menopausal women remain uncertain. Therefore, high-quality studies in this field are mandatory.

Disclosure of interest: The authors declare that they have no conflict of interest.

CERVICOVAGINAL AGENESIS DIAGNOSIS AND MANAGEMENT CHALLENGES ON A 14 YEARS OLD FEMALE FROM A REMOTE AREA: A CASE REPORT

Raumanen Lingkan Roeroe1, Rudy Arnold Lengkong1
1Obstetrics and Gynecology, Medicine Faculty of Sam Ratulangi University - Kandou Hospital, Manado, Indonesia
2Obstetrics and Gynecology, Toto Kabila Hospital, Gorontalo, Indonesia

Problem statement: Cervicovaginal agenesis, accompanied by normal functional endometrium, is a rare but challenging Mullerian anomaly in the case of surgical treatment. Several studies report successful conservative surgical treatment, but the recommended treatment of cervicovaginal agenesis with a normal uterus was hysterectomy because of the high failure rate of uterovaginal anastomosis and also the risk of severe pelvic infection and sepsis. The objective of this case report is to highlight the challenge and experience in diagnosing and managing such a rare and dilemmatic case with limited settings based on patient difficulties in compliant to the regular follow-up visits and regular use of vaginal dilators after surgery due to adverse access to the hospital. Methods: This is a case report of a 14 years old para 0 who was first diagnosed with primary amenorrhea and imperforate hymen. Referred to the hospital from a remote area with cyclic abdominal pain and hematuria. Mobile abdominal mass was found and no sign of vagina canal or dimple and no hymenal fringe were found on physical examination. The abdominal computed tomography (CT-SCAN) featured a 53 mm hypodense homogen mass diameter inside the vesicouterine pouch pressing the uterus and base of the urinary bladder to right lateral, a 33.9 mm uterus diameter, small or thin vagina, and no appearance of left renal. The patient then diagnosed with vagina agenesis. Diagnostic laparoscopic found hematometra and hematosalping. Open laparotomy discovered 20 cc foul smelling hemoperitoneum, round end and blind lumen of the lower uterine body lacked of uterosacral and cardinal ligament attachment with uterine sized 12 cm, both ovarium were intact, and no cervix was detected confirmed by histopathology examination as cervix agenesis. Hysterectomy was performed after counselling and informed consent had carefully done. Results: There were no complications following surgery. The patient and family acknowledged the permanent infertility and the chances to undergo reconstructive surgery when the patient reached adulthood. Conclusion: Cervicovaginal agenesis diagnosis and treatment is challenging due to rarity and variety of this case, while infertility is the main concern of this diagnosis. Every case must be reported to add publication literature as reference.

ASSOCIATION OF MMP-9 ACTIVITY ON THE INVASION PROCESS OF ENDOMETRIOMA TISSUE ON CHORIONIC ALLANTOIC MEMBRANE (CAM)

Vidia Sari1, Riris Istighfani Jenie2, Regina Arumsari1, Agung Dewanto1
1Department of Obstetrics and Gynecology, Faculty of Medicine, Public Health and Nursing, Universitas Gajah Mada Dr. Sardjito Hospital, Yogyakarta, Indonesia
2Department of Pharmaceutical Chemistry, Macromolecular Engineering Laboratory, Faculty of Pharmacy, Universitas Gajah Mada, Yogyakarta, Indonesia

Problem statement: Endometrioma occurs through a complex process. Various theories have been proposed, including the invagination of the ovarian cortex either secondary to bleeding of the superficial implant (Hugheson, 1957) or secondary to metaplasia of coelomic epithelium in cortical inclusion cyst (Donnez, 1996), and endometriotic transformation of a functional cyst (Nezhat, 1992). According to Hugheson’s theory, endometrioma was originated from the accumulation of menstrual debris that...
formed a pseudocyst and causing invagination of the ovarian cortex. Inflammation and fibrosis associated with endometrioma in cortical tissue enhanced follicular recruitment and atresia, resulting in focal exhaustion of primordial follicles responsible for reducing ovarian reserve. The implantation and invasion of endometrial tissue on the outer surface of the ovary is an essential initial process in the formation of endometrioma and is highly dependent on the proteolysis action of the matrix metalloproteinase. The previous study found an increased expression of MMP-9 in endometriosis. The association of MMP-9 on the ability of endometriosis to invade the cortex ovary remains unclear. This study aims to measure the correlation between MMP-9 and the capability of endometrioma tissue to invade the ovary by using the chorionic allantoic membrane (CAM) as a medium of tissue implantation. **Methods:** Ten samples of endometrioma tissue cultured in CAM, incubated for five days, then harvested for specimens. Samples were stained with hematoxylin-eosin, and the invasion scores were subsequently observed under a light microscope. The activity of MMP-9 was evaluated by using the gelatin zymographic method. There is no need for anesthesia. The correlation between MMP-9 activity and invasion score of endometrioma tissue (r = 0.825; p = 0.03). Based on the ASRM score, the severity of endometriosis showed a weak positive correlation in the association with MMP-9 activity (r = 0.207; p = 0.565).

**Conclusion:** There was a strong correlation between MMP-9 activity and invasion score of endometrioma, where the higher MMP-9 activity will increase the degree of endometrioma invasion.

**OFFICE HYSTEROSCOPY AS A FEASIBLE METHOD FOR DIAGNOSING AND TREATING INTRAUTERINE LESIONS - DATA OF A PRIVATE OFFICE IN HUNGARY**

**Peter Torok**1, Marton Lipkai1, Benye Boldogh1, Tunde Herman2

1Department of Obstetrics and Gynecology, University of Debrecen, Debrecen, Hungary
2Assisted Reproductive Medicine, University of Debrecen, Debrecen, Hungary

**Problem statement:** Minimally invasive procedures are widespread and preferred all over the world in all field of medicine. In gynecology diagnosis and treatment of intrauterine lesions, hysteroscopy accepted as gold standard for diagnosis and treatment. There is no need for anesthesia, operating theater with its high costs, therefore office hysteroscopy is more cost-effective compared to the traditional one. Out-patient hysteroscopy is even more preferred in pandemic times minimizing personal contacts and preventing complex surgeries in the operating theatre. **Methods:** Office hysteroscopy has been performed in private gynecological office. For diagnostic procedures a 2.9 mm optic is used with a 3.7 mm outer diameter sheath. For operative hysteroscopies a 5.5 mm sheath with working channel is used. Through the working channel the scissors and grasper can be inserted to the uterine cavity. After 12 years, 6.5 mm diameter bipolar resectoscope has been introduced for operative surgeries. Besides infertility, bleeding disorders, or abnormal ultrasonographic result, lost IUD were the indications of office hysteroscopy. For resectoscopies nitrogen oxidized gas, paracervical blockage or local anesthesia could be offered. **Results:** Between 01.01.2020. and 14.09.2021. 361 hysteroscopies were performed. Surgery was successful in 355 cases. Main indications were primary infertility in 148 cases (age: 34.03±4.52), secondary infertility in 88 cases (age: 36.00±5.13), abnormal result of ultrasonography in 81 cases (age: 42.29±11.51) and abnormal uterine bleeding in 33 cases (age: 44.26±5.45). Diagnostic hysteroscopies were performed in 47 cases, as a part of infertility work-up in 49 cases tubal test was performed during hysteroscopy, and in 28 cases by resectoscope. Transcervical resection of myopia were performed in 13 cases, septum was resected in 8 cases and metro-pasty were performed in 8 cases to correct dysmorphic uterus. Lost IUD was found in 5 cases and in 1 case it was repositioned. **Conclusion:** In several gynecological disorders office hysteroscopy gives the solution not only in diagnostics, but treatment, as well. Being an office procedure in effectivity, safety and expense point of view preferable over the traditional way.

**REDUCTION IN MENSTRUAL BLOOD LOSS (MBL) IN WOMEN WITH UTERINE FIBROID (UF)-ASSOCIATED HEAVY MENSTRUAL BLEEDING (HMB) TREATED WITH RELUGOLIX COMBINATION THERAPY (Rel-CT): LIBERTY LONG-TERM EXTENSION (LTE) STUDY**

**Ayman Al-Hendy**1, Andrea S. Lukes2, Alfred N. Poidexter III3, Roberta Venturaletia4, Claudio Villarroel5, Laura McKain6, Yulan Li7, Rachel B. Wagman8, Elizabeth A. Stewart4

1Department of Obstetrics and Gynecology, University of Chicago, Chicago, USA
2Obstetrics and Gynecology, Baylor College of Medicine and St. Luke’s Episcopal Hospital, Houston, USA
3Department of Obstetrics and Gynecology, University Magna Graecia Catanzaro, Catanzaro, Italy
4Institute for Mother and Child Research (IDIMI), University of Chile, Santiago, Chile
5Clinical Development, Myovant Sciences Inc, Berkeley, USA
6Biostatistics, Myovant Sciences Inc, Berkeley, USA
7Department of OB/GYN, Reproductive Endocrinology and Infertility, Mayo Clinic, Rochester, USA

**Problem statement:** In LIBERTY1&2 (24-week, double-blind, placebo-controlled studies), Rel-CT (relugolix 40mg, estradiol 1mg, norethindrone acetate 0.5mg) reduced MBL in women with UF-associated HMB. Effects of treatment on MBL volume in women receiving Rel-CT for up to 52 weeks, or in women who transitioned from placebo (after 24 weeks) to Rel-CT for up to 28 weeks, were assessed. **Methods:** Women who completed LIBERTY1&2 were eligible to enroll in a 28-week LTE study. All received Rel-CT. Primary efficacy endpoint: women (%) who achieved/maintained MBL ≤80 mL and ≥50% reduction from pivotal study baseline to the last 35 days of treatment. Secondary endpoints: mean MBL (%) reduction and amenorrhea rate. Outcomes were analyzed by baseline LIBERTY treatment assignment (Rel-CT/placebo) using descriptive statistics without statistical testing for treatment comparison. In LIBERTY1&2, study drug was initiated within 7 days of menses onset. In the LTE, the placebo group initiated Rel-CT later in the menstrual cycle because they had to complete Week 24 (W24) feminine product collection before transitioning. Data are reported for Rel-CT and placebo—Rel-CT groups for entire 52-week treatment period. **Results:** With Rel-CT (N=163), a rapid reduction in MBL was observed at W4 (least square [LS] mean % change from baseline: −52.8%), reaching −81.2% at W8 and maintained through W52 (−89.9%). With placebo (N=164), no meaningful MBL change occurred by W24 (−17.6%) nor did MBL decrease at time of the first bleeding after transition to Rel-CT because Rel-CT was initiated later in the menstrual cycle. At W32, MBL rapidly reduced (−79.6%), reaching −91.9% at W52, confirming the effect of Rel-CT shown in LIBERTY1&2. At W52, MBL 80 mL was observed in 87.1% and 75.6% and a ≥50% reduction of MBL was reported in 89.0% and 81.1% of women in the Rel-CT and placebo—Rel-CT groups, respectively. Women (%) achieving amenorrhea over the last 35 days of treatment: 70.5% (Rel-CT) and 57.9% (placebo—Rel-CT). **Conclusion:** Rel-CT resulted in rapid and clinically meaningful reduction of MBL in women with UF, which was maintained through W52. Treatment effect onset was faster when Rel-CT was initiated at the start of menses.

**Study funded by Myovant Sciences GmbH.**
MINIMALLY INVASIVE SURGERY APPROACH USING LIGASURE DEVICE FOR MANAGEMENT OF HERLYN-WERNER-WUNDERLICH SYNDROME: A CASE REPORT

Herry Prabowo Wijdaja1, Muhammad Nurhadi Rahman1, Euwitanan Phayowai Ganaj2, Akbar Novan Dwi Saputra1, Nuring Pangastuti1
Department of Obstetrics and Gynecology, Universitas Gadjah Mada, Faculty of Medicine, Public Health and Nursing, Yogyakarta, Indonesia

Problem statement: Herlyn-Werner-Wunderlich (HWW) syndrome is a very rare congenital anomaly of urogenital tract involving Mullerian ducts and mesonephric duct. The triad characteristic of this syndrome includes didelphys uterus, obstructed hemivagina, and ipsilateral renal agenesis. The most common presentation is abdominal pain, dysmenorrhea, and abdominal mass secondary to hematocolpos. Often from ultrasound examination it can be suggested as cystic lesions or chocolate cyst. Method: this case, a 29 years old nulliparous woman, was referred to our hospital because of finding right kidney agenesis, and suspecting chocolate cyst in the ovary. Since menarche, patient complaining of dysmenorrhea that disturbed her daily activities with intermenstrual spotting. Now, she complaining there was a lump came out from vagina and disturbed her sexual activities. On physical examination, there was a lump in the right laterocentral wall of vagina while straining, a longitudinal vagina septum was palpated, cervix couldn’t be visualized, uterus was difficult to assessed. Ultrasound revealed uterus didelphys with ground glass appearance right adnexal mass. Magnetic Resonance Imaging showed uterus didelphys. Vaginal septum with right-sided hemiuterus with right kidney agenesis in accordance with feature of Herlyn-Werner-Wunderlich syndrome, bilateral functional ovarian cysts. Laparoscopy showing a complete duplication of the uterus from the horn to the cervix with no connection between the two uterine cavities, both ovaries, and left tube were normal, right tube was enlarged and salpingostomy was done using Ligasure device, right kidney was not visualized. The laparoscopy guiding diagnostic and operative management of the vaginal septum resection using Ligasure device was performed. Result: vaginal septectomy using Ligasure device give satisfying result and less bleeding. She was discharged 3 days after surgery and came for follow-up after 7 days. Vaginal examination revealed a healthy wound with no adhesion. Conclusion: HWW Syndrome is a rare condition. Some of the various syndrome types may go unnoticed for months or even years after the onset of menstruation. Early diagnosis, followed by proper surgical treatment, is the key to avoid potentially severe complications. Our case introduces an innovative and safe alternative to the surgical management of a longitudinal vaginal septum, particularly useful in a confined surgical space.

THE EXPRESSION OF TUMOR NECROSIS FACTOR-ALPHA IN ENDOMETRIOMA AND BENIGN CYST

Erick Yuana, Agung Dewanto1, Shofwah Widad1
Faculty of Medicine, University of Gadjah Mada, Department of Obstetrics and Gynecology, Yogyakarta, Indonesia

Problem statement: Expression of tumor necrosis factor-alpha (TNF-A) as one of the pro-inflammatory cytokines has been suggested as a specific event for the maintenance and progression of endometriosis. In women with endometriosis, TNF-A concentrations correlate with the stage of the disease. Ovarian endometrioma is a common phenotype of endometriosis. The development of endometrioma may be correlated with the expression of TNF-A, but there is still a lack of research on TNF-A in endometrioma. The aim of this study was to investigate the expression of TNF-A in women with endometriomas compared with the benign cyst. Methods: In total, 46 patients undergoing surgery for ovarian cysts were evaluated, and a diagnosis of benign cyst or endometriomas was determined. Expression of TNF-A was evaluated in endometriomas from 24 women and 22 women with benign cysts were determined by performing immunohistochemical. Result: In this study, the mean age in years for the endometrioma group was 35.54 and 36.86 in the benign cyst group. In the benign cyst group, the majority were cases of serous cystadenomas (n=9), mature teratoma (n=5), and functional cyst (n=7). The degrees of endometriosis in this study included severe degrees (66.7%), moderate degrees (16.7%), and mild degrees (16.7%). The mean difference between the two groups was found. The Expressions of TNF-A were higher in endometriomas than in benign cysts with p 0.05 indicating a statistically significant difference. This study also found that the increased expression of TNF-A did not correlate with the degree of endometriosis (r = 0.666; p<0.05). Conclusion: For TNF-A, the immunohistochemical staining was qualitatively more intense in endometriomas, furthermore, the expression was different significantly, but this study also found that the increased expression of TNF-A did not correlate with the degree of endometriosis. These results indicate that the analysis of TNF-A should be further evaluated as a tissue marker for endometriomas.

HPV AWARENESS OF HUMAN PAPILLOMAVIRUS VACCINATION AMONG WOMEN IN KAZAKHSTAN

Torgyn Issa1, Aisha Babi1, Chee Kai Chian2, Azliyatzi Azizan3, Raushan Albekova1, Alpamyss Issanov4, Gulzhanat Almagambetova3
1Department of Biomedical Sciences, School of Medicine, Nazarbayev University, Nur-Sultan, Kazakhstan
2Department of Biology, College of Science and Technology, Wenzhou-Kean University, Wenzhou, China
3Department of Basic Sciences, College of Osteopathic Medicine, Touro University Nevada, Henderson, USA
4Department of Medicine, School of Medicine, Nazarbayev University, Nur-Sultan, Kazakhstan

Problem statement: For Kazakhstani women, human papillomavirus (HPV) remains one of the major health threats. However, many women remain unaware of HPV vaccination. The aim of this study was to determine the awareness of HPV vaccination and to identify the differences in HPV vaccine awareness among women from between different the regions in Kazakhstan. Methods: Paper-based questionnaires were collected from 1,215 women in the age group of 18-70 years old during their visits to gynecologists at the cities in five Kazakhstan regions (Nur-Sultan - capital city, Almaty - southern, Aktobe - western, Oskemen - eastern, and Pavlodar - northern region). A multivariable logistic regression model was constructed for data analysis. Results: In total, 1,215 women participated in the study. Half of the respondents (51%) were aware of the HPV vaccine. The mean age was 36.51±10.03, and the majority (38%) were aged between 26 and 35. Most of the women (70%) identified themselves ethnically as Kazakh. Half of the respondents (53%) have university degrees. The majority of women (80%) were either married or had a partner. In comparison with the women in the age group of 18-25 years old, women aged older than 46 were 2.27 times more likely to be aware of HPV vaccination. In contrast to women from the capital city, women from the northern region were more likely to be aware of HPV vaccination. The respondents in committed relationships were 1.65 times more likely to be aware of HPV vaccination. Women with a high level of knowledge about cervical cancer and HPV were more likely to be aware of HPV vaccination in comparison with the participants who have a low level of knowledge, 1.66 and 1.23-fold respectively. Conclusion: This study revealed that 51% of women who visited gynecologists in
Kazakhstan were aware of HPV vaccination. However, in order to contribute to health policy formation and decision-making about HPV vaccination and cervical cancer prevention, there is also a need to study more about vaccine acceptance among the Kazakhstani population.

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**ADENOCARCINOMA OF CERVIX – A DIAGNOSTIC CHALLENGE**

Carolina Carneiro1, Matilde Martins1, Patricia Ferreira1, Susana Leitao2, Teresa Teles3

Obstetrics and Gynecology, Centro Hospitalar Entre O Douro E Vouga, Santa Maria Da Feira, Portugal

**Problem statement:** Cervical cancer is the sixth most commonly diagnosed cancer in Europe and the third leading cause of cancer death among females in less developed countries, which contains 90% of cervical cancer deaths. Huge differences are explained by the availability of screening and prevalence of human papillomavirus (HPV). The screening with HPV testing and adequate treatment of precursors of cervical cancer had changed the paradigm of this disease. Squamous cell carcinomas (SCC) represent nearly 75% of all cervical cancer and adenocarcinoma 15%, leading to the majority of follow-up studies being of SCC cases. Although, some risk factors are shared with SCC, particularly infection with high-risk subtypes of HPV (specially type 16 and 18), factors such as cigarette smoking do not appear to be a risk factor for adenocarcinoma. **Methods:** Description of a clinical case

**Results:** 56 years old woman with past history of premature ovarian failure at 39 years old, presents with a HPV 16 and 33 positive with a normal citology. One year later, citology showed a HSIL with HPV persistency. At colposcopy, a biopsy was performed that revealed a CIN2. An excisional treatment with electrosurgical conization was decided and anatomicopathological result was; CIN1 and a focus of 1mm of CIN2, margins free of lesion. At 6 months, a transformation zone tipe 2 was observed with findings suggestive of a low-grade lesion and a biopsy was performed at 1 and 8 o’clock. On citology, LSIL and adenocarcinoma on glandular cells at endocervical component and HPV testing was positive for type 16 and other of high risk. Re-conization was proposed to the patient. **Conclusion:** Adenocarcinoma represents a minority of cervical cancer and includes a more heterogeneous group. This clinical case demonstrates the clinical importance of post-treatment surveillance, in fact, although HPV testing is described as the best option to follow-up treated patients, in some cases, citology has a very important role.

**OTHER**

**DIAGNOSIS AND APPROACH TO INTERSTITIAL ECTOPIC PREGNANCY: PURPOSE OF A CASE**

Maria Benitez1, Maria Rodriguez2,3, Andres Montes3, Maria Benitez2

1Obstetrics & Gynecology Service, Country Clinic, Bogota, Colombia
2Faculty of Medicine, Bocse University, Bogota, Colombia

**Problem statement:** Ectopic pregnancy is a very rare condition with an incidence of less than 1% of all ectopic pregnancies. It is associated with high mortality and morbidty due to life threatening severe haemorrhage. Management options include medical management and surgical procedures, all with the goal of fertility preservation. We describe a case managed with medical therapy that went on to require surgical intervention. **Methods:** A 26-
A 38-year-old nulliparous female presented to the emergency department of a rural hospital with vaginal bleeding after six weeks of amenorrhea. She had type 2 diabetes mellitus on liraglutide, with no other medical or surgical history. This was an unplanned pregnancy. The β-subunit of human chorionic gonadotropin (βhCG) titre was 32 924. Based on transvaginal ultrasound, a live endocervical gestation was identified with a crown rump length measuring 9.8mm, equivalent to 6+5 weeks gestation. A diagnosis of a live endocervical ectopic pregnancy was made. Results: The patient received systemic multi-dose Methotrexate therapy via intramuscular injection 50mg/m² for four doses, with ongoing outpatient monitoring. 16 days later, she presented to a different rural emergency department with abdominal pain and bleeding. The βhCG was now 6381 and there was a persistent cervical gestational sac on transvaginal ultrasound. Due to ongoing bleeding requiring blood transfusion, the decision was made to perform a suction curettage under general anaesthesia. The patient underwent bilateral ligation of the cervicovaginal branches of the uterine arteries, suction evacuation of retained pregnancy products, uterine curettage, and placement of a Foley catheter and cerclage. The uterine arteries were pre-operatively catheterised but embolization was not required. The Foley catheter and cerclage were removed two days later. She required a total of four units of blood during the admission and the βhCG level fell to zero after 45 days. There were no further reported complications. Conclusion: Given the rarity of the condition, it is difficult to establish evidence-based criteria for management of cervical ectopic pregnancy. The early diagnosis and prompt treatment were crucial in this case for fertility preservation in this patient.

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Problem statement: To evaluate the effect of a new combined oral contraceptive containing the native estrogen Estetrol (E4) 15 mg and drospirenone (DRSP) 3 mg on endocrine, metabolic, and hemostatic parameters. Methods: We conducted a single-center, randomized, open-label, three-arm, parallel study in healthy women. Participants received six consecutive treatment cycles with E4/DRSP (n=38), or ethinyl estradiol (EE)-containing reference products, EE 30 µg/levonorgestrel (LNG) 150 µg (n=29) or EE 20 µg/DRSP 3 mg (n=31). We compared median percentage changes between baseline and cycle 6 for all parameters. Results: E4/DRSP had smaller effects than EE/LNG and EE/DRSP on angiotensinogen (+75.0% versus +152.0% and +140.0%, respectively), cortisol (+26.0% versus +109.0% and +71.0%, respectively), cortisol binding globulin (+40.0% versus +170.0% and +206.5%, respectively), sex hormone binding globulin (+55.0% versus +74.0% and +251.0%, respectively), prothrombin fragment 1+2 (+23.0% versus +152.0% and +140.0%, respectively), and thyroxin binding globulin (+17.0% versus +37.0% and +70.0%, respectively). E4/DRSP minimally changed lipid parameters effect, the largest effect on triglycerides (+24.0%), a change similar to EE/LNG (+28.0%) and less than EE/DRSP (+65.5%). E4/DRSP had less pronounced effects than EE/LNG and EE/DRSP on endogenous thrombin potential-based activated protein C resistance (+30.0% versus +164.5% and +218.5%, respectively) and prothrombin fragment 1+2 (+23.0% versus +71.0% and +64.0%, respectively), two procoagulant markers. E4/DRSP also had less impact on plasminogen (+12.0% versus +40.0% and +35.5%, respectively) and tissue plasminogen activator (-7.0% versus -33.0% and -38.5%, respectively), two fibrinolytic proteins. Conclusions: E4/DRSP has a limited effect on endocrine and metabolic parameters and a neutral hemostatic profile compared to EE-containing products.

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EUTHOPIC OR ECTOPIC PREGNANCY: THAT IS THE QUESTION

Sofia Domingues1, Marta Plancha2, Sara Rocha2, Vanessa Rosado2, Vitor Gabriel1, Carlos Barros2

1Servicio De Ginecologia E Obstetricia, Centro Hospitalar De Setúbal, Setúbal, Portugal
2Servicio de Ginecologia E Obstetricia, Maternidade Dr. Alfredo Da Costa, Centro Hospitalar e Universitário Lisboa Central, Lisbon, Portugal

Problem statement: Congenital uterine anomalies (CUA) are result from abnormal formation, differentiation, and fusion of the Müllerian or paramesonephric ducts during fetal life. Its prevalence is reported to be 4.3-6.7% in the general population and 12.6-18.2% in those with recurrent miscarriages. Several classifications have been proposed in order to categorize CUA, though the European Society of Human Reproduction (ESHRE) classification seems to be the most accepted. Actually, this classification is used by clinicians when they refer to CUA to evaluate not only their clinical impact, but also pregnancy outcomes. We report a case of pregnancy in a rudimentary uterine cavity which was misdiagnosed as an ovarian ectopic pregnancy.

Methods: A 38-year-old woman, G2P1 with previous lower segment cesarean (breech presentation) and no relevant gynecological history, was admitted to emergency department (ED) with moderate vaginal bleeding and pelvic pain, with hemodynamic stability. On transvaginal ultrasound examination, we found an anteversion uterine cavity with endometrial thickness of 16 mm and an evolving pregnancy compatible with 8 weeks, placed outside the uterine cavity. There was a suspicion of right ovarian ectopic pregnancy (normal ovarian stroma surrounding the gestational sac). In this context, a diagnostic laparoscopy was performed. Results: Intraoperatively, two similar size uteri were observed: on the left side, a corresponding adnexa (right to the pregnant cavity and left to the main cavity). In addition, we also noticed the presence of a communication between both uteri. After the identification of anatomical structures, right hemi-hysterectomy with bilateral salpingectomy was done. The anatomicopathological examination reported a rudimentary uterine cavity with endometrial changes related to pregnancy and an embryo. Conclusion: We have reported a case of ACU class U4a, based on ESHRE classification and MMH as an associated anomaly with a functional rudimentary horn. In this rare case, the accurate identification and treatment of this entity is crucial to avoid complications such uterine rupture and its severe outcomes. Therefore, this case report emphasizes the importance of recognizing and managing properly the ACU.

EFFECTS OF AN ORAL CONTRACEPTIVE CONTAINING ESTETROL AND DROSPIRENONE ON SELECT ENDOCRINE, METABOLIC AND HEMOSTATIC PARAMETERS: RESULTS OF A PHASE-2 TRIAL

Christine Klippling1, Ingrid Duijkers1, Jonathan Douxfils2, Maud Jost1, Mitchell Creinin3, Jean-Michel Foidart1,5

1Dinox, BV, Groningen, Netherlands2QualiBlood SA, Namur, Belgium and Department of Pharmacy, Namur Thrombosis and Hemostasis Center, Namur Research Institute for Life Sciences, University of Namur, Namur, Belgium3Estetra SRL, an Affiliate Company of Mithra Pharmaceuticals, Liège, Belgium4Department of Obstetrics and Gynecology, University of California, Davis, Sacramento, USA5Department of Obstetrics and Gynecology, University of Liège, Liège, Belgium
BLEEDING PATTERNS WITH USE OF AN ORAL CONTRACEPTIVE CONTAINING ESTETROL AND DROSPIRENONE: POOLED ANALYSIS OF PHASE-3 CLINICAL TRIALS

Andrew Kaunitz1, Sharon Achilles2, Maud Jost3, Jean-Michel Foidart4,5, Mitchell Creinin3
1Department of Obstetrics and Gynecology, University of Florida
Jacksonville, Jacksonville, USA
2Department of Obstetrics, Gynecology, and Reproductive Sciences, University of Pittsburgh and Magee-Womens Research Institute, Pittsburgh, USA
3Estera SRL, an Affiliate Company of Mithra Pharmaceuticals, Liège, Belgium
4Department of Obstetrics and Gynecology, University of Liège, Liège, Belgium
5Department of Obstetrics and Gynecology, University of California, Davis, Sacramento, USA

Problem statement: To evaluate bleeding patterns with use of a 24/4-day novel combined oral contraceptive regimen containing estetrol, a native estrogen, and drosiprenone. Methods: We pooled bleeding data from two parallel, multicenter, open-label, phase-3 trials (United States/Canada and Europe/Russia). Healthy women aged 16-50 years with body mass index of 18-35 kg/m2 used estetrol/drospirenone 3 mg for up to 13 cycles. Participants reported vaginal bleeding (blood loss requiring use of sanitary protection) or spotting (minimal blood loss, requiring no new use of sanitary protection) on daily diaries. We evaluated bleeding outcomes in participants that started treatment and had at least one evaluable cycle. We calculated mean frequency of scheduled and unscheduled bleeding and/or spotting and median duration of bleeding and/or spotting episodes. Results: Of 3,417 participants starting treatment, 3,265 were included in the bleeding analysis. Mean reported treatment compliance was ≥99%. Across cycles, 67.2-97.0% of participants reported scheduled bleeding/spotting, with a median duration of 4-5 days/cycle. Unscheduled bleeding/spotting frequency decreased from 27.1% in Cycle 1 to 17.5% from Cycle 5 onwards, with a median duration of 3-4 days/cycle and most episodes (62.7%) were spotting-only. Of 2,234 women completing 13 cycles, 754 (34%) reported unscheduled bleeding/spotting in only 1 or 2 cycles and 911 (41%) did not report any unscheduled bleeding/spotting. The most common bleeding adverse events (AEs) considered treatment-related were ‘metorrhagia’ (159 (4.7%)) and ‘vaginal hemorrhage’ (101 (3.0%) One-hundred and four (3.0%) participants discontinued for a bleeding-related AE. Conclusion: Most users of estetrol/drospirenone oral contraceptive experience a predictable bleeding pattern and limited unscheduled bleeding. This study was funded by Estetra. AMK serves on Advisory Board for Merck and Mithra. University of Florida receives research funding from Estetra and Mithra. SLA received consulting fees from Mayne and Merck. Magee-Womens Research Institute receives research funding from Estetra, EVOFem, Merck, MJ is an employee of Estetra. JMF is board member at Mithra Pharmaceuticals and received financial support for supervision of this study. MDC serves on Advisory Board for EvoFem, Mayne, Merck, Searchlight and is consultant for Danco, Estetra, SLA, Mayne, Medicines360 and Merck. The university of California, Davis, receives contraceptive research funding from Dare, HRA Pharma, Medicines360, Merck, Sebela.

PROOLED PHASE-3 ANALYSIS OF EFFICACY AND SAFETY OF ESTETROL/DROSPIRENONE COMBINED ORAL CONTRACEPTIVE

Jeffrey Jensen1, Andrew Kaunitz2, Melissa Chen2, Maud Jost1, Jean-Michel Foidart4,5, Mitchell Creinin3
1Department of Obstetrics and Gynecology, Oregon Health & Science University, Portland, USA
2Department of Obstetrics and Gynecology, University of Florida
Jacksonville, Jacksonville, USA
3Department of Obstetrics and Gynecology, University of California, Davis, Sacramento, USA
4Estera SRL, an Affiliate Company of Mithra Pharmaceuticals, Liège, Belgium
5Department of Obstetrics and Gynecology, University of Liège, Liège, Belgium

Problem statement: To examine efficacy and safety of a combined oral contraceptive containing the native estrogen estetrol (E4) and drospirenone (DRSP) in a 24/4-day oral regimen. Methods: Two parallel, multicenter, open-label, phase-3 trials (United States/Canada and Europe/Russia) enrolled healthy women 16-50 years old with a body mass index (BMI) of 15 mg/drospirenone 3 mg (E4/DRSP) for up to 13 cycles. We pooled data in participants 16-35 years at screening to assess the Pearl Index (PI) in at-risk cycles (confirmed intercourse and no other contraceptive use). We also stratified PI by previous hormonal contraceptive use and body mass index (BMI) and compared groups using Chi-square testing. We evaluated overall safety (treatment-related adverse events [AEs]) in all participants aged 16-50 years. Results: We treated 3,417 participants with E4/DRSP of whom 3,027 were 16-35 years. Overall, participants reported ≥99% treatment compliance. Among women 16-35 years, PI was 1.52 (95% CI 1.04-2.16). For starters (n=1,368) and switchers (n=1,469), PI was 1.88 (95% CI 1.09-3.00) and 1.24 (95% CI 0.68-2.08), respectively (p=0.25). For BMI 25.0 kg/m2 (n=1,771), 25-30 kg/m2 (n=686) and ≥30 kg/m2 (n=410), PIs were 1.14 (95% CI 0.64-1.88), 2.19 (95% CI 1.05-4.03) and 2.27 (95% CI 0.83-4.94), respectively (p=0.17). The most frequently reported treatment-related AEs were metorrhagia (4.7%), acne (3.3%) and headache (3.2%). Three treatment-related AEs (0.1%) were considered serious: worsening depression (continued treatment), ectopic pregnancy (discontinued) and venous thromboembolism (continued). Conclusion: Overall, and in subgroups stratified by contraceptive history and BMI, women using E4/DRSP demonstrated contraceptive efficacy. Adverse events occurred at low rates in the entire population.

Isolated congenital hypoplasia of nasal cartilage – a pre-natal ultrasound diagnosis

Mariana Lira Morais1, Diana Monteiro2, Marta Campos2, Isabel Fragoso1, Jorge Castro3, Catia Lourenco4, Matilde Azevedo2, Conceicao Brito2
1Obstetrics, Centro Hospitalar Trás Os Montes E Alto Douro, Vila Real, Portugal
2Prenatal diagnosis, Centro Hospitalar de Vila Nova de Gaia/Espinho, Vila Nova Gaia, Portugal
3Obstétricas, Unidade Local de Saúde de MatoSinhos, MatoSinhos, Portugal

Problem statement: Prevalence of congenital nasal anomalies is about 1 in 20,000 to 1 in 40,000 live births. Fetal nasal bone anomaly, such as hypoplasia of the nasal bone, can be used as an ultrasound soft marker for screening of fetal chromosomal abnormalities, particularly trisomy 21 syndrome. It is also associated with some chromosomal microdeletions or microduplications which might be detected using microarray technology, thus improving detection rates for fetal conditions. Isolated non-syndromic congenital nasal anomalies are rare. Nasal bone hypoplasia can be present in 0.5-1.2% of normal fetuses on a routine 2nd trimester scan. Methods & Results: We report a 39-year-old pregnant woman, primigravida, with no previous gynecological surveillance, spontaneous pregnancy. She had history of lower limb deep vein thrombosis and hyperparathyroidism secondary to a parathyroid adenoma. First trimester ultrasound and combined screening for aneuploidies were considered low risk. At 20 weeks gestation, her second trimester scan
revealed an abnormal profile with a hypoplastic nasal bone measuring 4.7mm and a flat nose with a wide base (Figure 1-A). No other sonographic abnormalities were identified.

Following parental counselling, amniocentesis was performed, for QF-PCR and subsequently microarray, which revealed normal results. Screening for infectious disease in blood was negative. Fetal echocardiogram was normal. Several subsequent growth scans were performed and she proceed her pregnancy uneventfully. A vaginal delivery occurred at 40 weeks of gestation. A healthy boy was born weighing 3800 grams and an Apgar score 9/10. Isolated hypoplasia of nasal cartilage was confirmed after birth (Figure 1-B). **Conclusion:** Prenatal diagnosis of facial dysmorphisms can be difficult. Many conditions presenting with low flat nasal bones have been described, although most of them were associated with other anomalies and genetic conditions. A careful evaluation of fetal anatomy should be undertaken, especially skeletal and heart assessment. Genetic and antenatal counselling must be offered to the parents.

**CONTRACTION USE AMONG WOMEN DIAGNOSED WITH MULTIPLE SCLEROSIS IN WESTERN UKRAINE**

Oksana Nehrych1, Vira Pyrohova, Vira Pyrohova1, Tetyana Nehrych, Tetyana Nehrych2, Nazar Negrych, Nazar Negrych2

1Department of Obstetrics, Gynecology and Perinatology FPGE, Danylo Halytsky Lviv National Medical University, Lviv, Ukraine
2Department of Neurology, Danylo Halytsky Lviv National Medical University, Lviv, Ukraine

**Problem statement:** Multiple sclerosis (MS) is a leading cause of disability in young patients worldwide. MS-related problems significantly affect family planning, as the symptoms of the underlying disease may interfere with the full care of the child, and there are concerns about the possible inheritance of MS by future generations. The study aimed to evaluate awareness about contraception and usage of these methods about reproductive-aged women in Western Ukraine. **Methods:** A survey of 116 women of reproductive age with a confirmed diagnosis of multiple sclerosis, analyzed the use of various contraceptive methods and awareness of family planning. **Results:** Evaluation of patients’ use of means of preventing unwanted pregnancies at the time of inclusion in the study showed an insufficient level of use of reliable contraceptives. The use of family planning methods was relevant for all women in the main cohort, except for those who did not have sex - 14 (12.1%) women. However, 69.8% of women had never consulted a specialist on effective family planning methods, only 17.2% of women after being diagnosed with MS were recommended to use contraception. Although interrupted intercourse is not a method of contraception, 41.4% of patients of early reproductive age and 15.8% of late reproductive age used it to prevent unplanned pregnancy. **Conclusion:** The critically low use of reliable, effective and safe contraceptives among women with MS increases the risk of adverse effects, including the birth of a sick child or abortion rates. Effective counseling on family planning is obligatory for all women with MS, especially those taking disease-modifying drugs. Most methods of contraception are available for women with MS. When choosing the appropriate method, factors to consider include safety, availability, acceptability and effectiveness.

**COMPARATIVE STUDY ON THE USE OF SINGLE-DOSE ANTIBIOTIC PROPHYLAXIS AND 7-DAY ANTIBIOTIC REGIMEN IN THE MANAGEMENT OF HIGH-ORDER PERINEAL LACERATION AFTER VAGINAL DELIVERY (A RANDOMIZED CONTROLLED TRIAL)**

Almaira Pagayao1, Josef Dawn Martin1

1Department of Obstetrics and Gynecology. Southern Philippines Medical Center, Davao City, Philippines
Background: Vaginal delivery is commonly associated with perineal lacerations that may increase infectious morbidity. Although prophylactic antibiotics reduce infection, unnecessary prolonged antibiotic use has associated risks. Single-dose antibiotic prophylaxis is recommended based on a single randomized controlled trial with low to moderate quality of evidence. Objective: This study was conducted to determine whether single-dose prophylaxis compared with a 7-day antibiotic regimen for high-order perineal lacerations will prevent wound complications. Methodology: This prospective randomized controlled study was approved by the Ethics Review Committee. Eighty two (82) pregnant women were included. Group A received single-dose Cefoxitin and Group B received 7-day regimen of Cefuroxime and Metronidazole. Pelvic exam was done at 24-48 hours, 1 week, and 2 weeks after delivery to monitor for wound complication. Results: Baseline profiles of both groups were comparable. At 24-48 hours postpartum, there was no significant difference in wound complications between the two groups (0% vs 7%, p=0.058). Intention-to-treat analysis showed significantly more complications in Group B (0% vs 10%, P=0.020). At 2 weeks postpartum, none had wound complications in both groups. Birth weight 3kg, episiotomy, nulliparity and perineal length 3kg significantly increased the risk of wound complication (p=0.011). Conclusion: Single-dose Cefoxitin given at the time of repair of high-order perineal lacerations is more effective than 7-day regimen of Cefuroxime and Metronidazole in preventing wound complication at 1 week postpartum. No significant difference on incidence of wound complications was noted between the single treatment groups at 24-48 hours and 2 weeks postpartum.

Keywords: antibiotic prophylaxis, high order perineal laceration

RISK OF PREMATURITY IN IMMIGRANT MOTHERS WITH AND WITHOUT COMORBIDITIES: A POPULATION-BASED STUDY

Judith Racape1, Aruna Doghe2, Judith Racape1

1Chair in Health and Precarity (Faculty of Medicine), Université Libre De Bruxelles (ULB), Brussels, Belgium
2Research Center in Epidemiology, Biostatistics and Clinical Research (School of Public Health), Université Libre De Bruxelles (ULB), Brussels, Belgium

Problem statement: There is a known association between the immigration status of the mother and pregnancy outcomes, but its influence may vary according to the mother’s comorbidities. Our objective is to evaluate how mother’s comorbidities affect the relationship between maternal nationality and prematurity. Methods: This is a population-based study using the data from linked birth and death certificates from the Belgian civil registration system. Data are related to all singleton births to mothers living in Belgium between 2010 and 2016 (n=865,545). Maternal comorbidities were body mass index (BMI)30sqm, hypertension (HT) and diabetes. Maternal nationality was defined as the nationality of the mother at her child’s birth, nationality groups were: Belgian, EU27, Easter Europe and Russia (noEU27), Turkey, North Africa and sub Saharan Africa. We used logistic regression to estimate the odds ratio for the associations between nationality and perinatal outcomes before and after adjusting for maternal comorbidities. We stratified for HTA and BMI. Results: Among women without HTA, prematurity rates are lower for non-Belgian women (all nationality groups) than Belgian women. OR adjusted by BMI and diabetes were: EU27 0.87(0.84-0.90), Easter Europe and Russia (noEU27) 0.81(0.74-0.85), Turkey 0.81(0.73-0.90), North Africa 0.58(0.55-0.62) and sub Saharan Africa 0.82(0.77-0.88). In women with HTA the aOR for prematurity were: EU27 1.14(1.02-1.27), Easter Europe and Russia (noEU27) 1.25(0.95-1.64), Turkey 1.34(0.94-1.93), North Africa 1.33(0.94-1.93) and sub Saharan Africa 1.77(1.56-2.00). In women with a BMI 30kg/sqmt Prematurity rates are lower for non-Belgian women (all nationality groups) than Belgian women, OR adjusted by HTA and diabetes were EU27 0.87(0.84-0.91), Easter Europe and Russia (noEU27) 0.83(0.70-0.91), Turkey 0.81(0.72-0.9), North Africa 0.6(0.56-0.64) and sub Saharan Africa 0.91(0.85-0.97). In women with a BMI 30kg/sqmt, the aOR for prematurity were: EU27 1.01(0.92-1.12), Easter Europe and Russia (noEU27) 0.89(0.68-1.17), Turkey 1.18(0.89-1.55), North Africa 0.78(0.67-0.91) and sub Saharan Africa 1.25(0.95-1.64), Turkey 1.34(0.94-1.93). Conclusions: Although immigrant women appear to have a lower risk of prematurity than Belgian women, in the presence of comorbidities (HTA or BMI 30kg/sqmt), their risk may be greater or equal to than Belgian women with the same comorbidities.

SALPINGITIS ISTHMICA NODOSA- A CAUSE FOR RECURRENT ECTOPIC PREGNANCY

Aditi Ramachandra Chandraya1, Lisa Clayton Barnes1

Obstetrics and Gynaecology, Stepping Hill Hospital, Stockport, UK

Problem statement: Salpingitis isthmica nodosa (SIN) is a condition which occurs very rarely and is detected after histopathology of the tube and would require further assessment in a fertility set up to prevent any further possibility of ectopic pregnancy from happening and hence appropriate counselling and further management. Methods: Salpingitis isthmica nodosa is a condition that occurs 0.6-11% pregnancies, it is also called the diverticulosis of the fallopian tubes(1). In our early pregnancy unit we assessed a 28 year old lady who has one left sided ectopic pregnancy followed by a right sided ectopic pregnancy medically managed, had a normal vaginal delivery and now come in pregnant 6 weeks with a left sided ectopic pregnancy, medical management of the ectopic pregnancy with methotrexate failed and hence was decided upon for surgical management with salpingectomy. Results: Left tube was sent for histopathology and it showed SIN. Patient was referred to the fertility unit for further management. Conclusion: There very few case reports and a literature regarding SIN and its etiology largely remains unknown, patients who have been diagnosed with SIN need to be appropriately managed to prevent further recurrence of ectopic pregnancies and morbidities from the same. Disclosure of interests: I have no conflicts of interests to this paper.

PREGNANCY IN WOMAN WITH FOWLER SYNDROME
Shefali Rathee1, Alina Vais1
Obstetrics and Gynaecology, Chesterfield Royal Hospital NHS Trust, Chesterfield, UK

A favourable outcome of a 31-year-old pregnant woman with underlying Fowler’s syndrome along with focal epilepsy, Hypothyroidism and Asthma. Fowler’s syndrome is a cause of urinary retention in young women. The abnormality lies in the failure of urethral sphincter to relax, hence the main concern is to ensure adequate bladder emptying. Our patient went through self-catheterisation and suprapubic catheters after which she had the Mitrofanoff procedure to help manage her symptoms. Upon getting pregnant the main concern was recurrent urinary tract infections and pelvic pain requiring hospital admissions for parenteral antibiotics and analgesia. She underwent Induction of labour at 39 weeks and delivered a healthy infant. Post-natal recovery was complicated with worsening of seizures, was managed with support of neurology team input.
Industry
COGI Laser Course
December 2nd 2021
14.00 – 16.45, Hall B
Berlin, Germany
The 29th World Congress on Controversies in Obstetrics, Gynecology & Infertility

Vaginal Erbium Laser for Women's Health

Course Program (165 minutes):

0. Introduction by Program Coordinator
   5 min (Speaker: Zdenko Vizintin)

01. Overview of Vaginal Erbium Laser Technology
    15 min (Speaker: Zdenko Vizintin)

PART I – Stress Urinary Incontinence (SUI)

02. Non-ablative Erbium Laser for SUI - European Multi-center Randomized Controlled Trial
    20 min (Speaker: Dr. Neza Koron)

03. Non-ablative Erbium Laser for SUI – Combined Intra-vaginal Plus Intra-urethral Treatment
    20 min (Speaker: Dr. Aleksandra Novakov-Mikic)

04. Q&A of Part I
    8 min (Moderators: Dr. Marco Gambacciani, Zdenko Vizintin)

PART II – Genitourinary Syndrome of Menopause (GSM)

05. Non-ablative Erbium Laser for GSM and Urinary Symptoms of GSM
    20 min (Speaker: Dr. Adrian Gaspar)

06. Non-ablative Erbium Laser for GSM in Breast Cancer Patients and its Effects on Sexual Satisfaction
    20 min (Speaker: Dr. Marco Gambacciani)

07. Q&A of Part II
    8 min (Moderators: Dr. Aleksandra Novakov-Mikic, Dr. Neza Koron)
PART III – Other Emerging Laser Applications for Women’s Health

08. Laser Treatment of Superficial Dyspareunia
   10 min (Speaker: Dr. Marco Gambacciani)

09. Laser Treatment of HPV in Cervical Canal
   10 min (Speaker: Dr. Letitia Lazzaletta)

10. Other Laser Applications in Gynecology
    10 min (Speaker: Zdenko Vizintin)

11. Q&A of Part III
    8 min (Moderators: Dr. Aleksandra Novakov-Mikic, Dr. Neza Koron)

PART IV - Test

12. End-of-Course Test
    10 min

Short Course Description:
Course participants will learn the basic principles of using lasers in a variety of non-surgical and surgical procedures within the fields of minimally invasive gynecology.

The entire course constitutes of twelve topics divided into four parts. In Part I the use of FotonaSmooth Erbium laser systems for Stress Urinary Incontinence will be discussed. The second part is dedicated to laser treatment of Genitourinary Syndrome of Menopause, while in Part III experts will present additional new innovative applications as well as the range of many possible laser treatments. In the last part (IV) participants will have to complete an End-of-Course Test.

Upon completing the End-of-Course Test, the participants will receive the Course Certificate.
CONTROVERSIES - THE FOUNDATION FOR NEW SOLUTIONS
FRIDAY, DECEMBER 3, 2021

10:20-11:50 HALL B

<table>
<thead>
<tr>
<th>Time</th>
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<th>Speaker</th>
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<tbody>
<tr>
<td>10:20</td>
<td>RVVC diagnosis and treatment guideline – set up as an ideal</td>
<td>Werner Mendling</td>
<td>Germany</td>
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<tr>
<td>10:35</td>
<td>RVVC diagnosis and treatment guideline implementation. Facing reality</td>
<td>Peter Greenhouse</td>
<td>UK</td>
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<tr>
<td>10:50</td>
<td>Discussion</td>
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<td>11:05</td>
<td>VTE risk – from bench to bedside</td>
<td>Mitchell Creinin</td>
<td>USA</td>
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<tr>
<td>11:20</td>
<td>COCs. The everyday empowerment for women</td>
<td>Rosella Nappi</td>
<td>Italy</td>
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<td>11:35</td>
<td>Discussion</td>
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INDIVIDUALIZED PROTOCOLS IN ART
FRIDAY, DECEMBER 3, 2021

12:10-13:10 HALL A

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<td>12:10</td>
<td>Dose adjustment</td>
<td>Raj Mathur</td>
<td>UK</td>
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<td>12:30</td>
<td>Type and dose of gonadotropins in poor ovarian responders: Does it matter?</td>
<td>Christophe Blockeel</td>
<td>Belgium</td>
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<tr>
<td>12:50</td>
<td>LPS individualization</td>
<td>Dominic Stoop</td>
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# CONTROVERSIES AND CHALLENGES IN RELAPSED OVARIAN CANCER

**SATURDAY, DECEMBER 4, 2021**

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<td><strong>Robert Armbrust, Germany</strong></td>
<td><strong>Germany</strong></td>
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<td><strong>Jalid Sehouli, Germany</strong></td>
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<tr>
<td>16:00-16:20</td>
<td>Role of surgery in platinum resistant and sensitive relapsed ovarian cancer</td>
<td><strong>Robert Armbrust, Germany</strong></td>
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<tr>
<td>16:20-16:40</td>
<td>Role of maintenance therapy</td>
<td><strong>Radoslav Chekerov, Germany</strong></td>
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<td>16:40-17:00</td>
<td>Role of chemotherapy free treatment protocols</td>
<td><strong>Jalid Sehouli, Germany</strong></td>
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The COGI Congress would like to thank the supporters and exhibitors. It is with the support of the industry that COGI can continue in its mission to promote research and education and to disseminate new knowledge.

**GOLD**

**SILVER**

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Quality, compliance, and safety are of utmost importance at Cryos, which is why we are ISO 9001:2015 certified and always committed to meeting the highest quality standards. We offer an easy ordering process as well as fast and reliable shipping, and the ability to register pregnancies online. With more than 30 years of experience and a professional, dedicated team committed to helping others achieve their dreams of becoming parents, you can feel confident in your decision to choose Cryos as your business partner.
Industry Profiles

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Besins Healthcare is a privately held, global pharmaceutical company headquartered in Monaco. We are a world leader in novel therapies for gynecology and andrology. We have discovered groundbreaking technologies to improve patient well-being throughout our history. We have developed several hormone therapies over the years including bioavailable natural progesterone by different routes of administration for pregnant women from conception until delivery and a natural testosterone transdermal gel for testosterone deficiency syndrome. We continue to be a leader in Estradiol Replacement Therapy with the first transdermal gel marketed in Europe. Our products are trusted and prescribed by healthcare professionals in more than 100 countries throughout the world.

CeGaT GmbH

CeGaT GmbH is a leading global provider of genetic diagnostics and mutation-related disease analyses. The company combines its next-generation sequencing (NGS) process and analysis pipelines with its medical expertise – dedicated to identifying the genetic cause of disease and supporting patient management.

Through NGS, it is possible to analyze all genes associated with a disease phenotype simultaneously – both fast and effectively. An interdisciplinary team of scientists and physicians evaluates the data and summarizes the findings in a comprehensive medical report. All services are performed in-house.

CeGaT, founded in 2009 and based in Tübingen, Germany, is accredited according to CAP, CLIA, and DIN EN ISO 15189:2014.

Clovis Oncology

Founded in 2009, Clovis Oncology is a commercial stage biotechnology company focused on acquiring, developing and commercializing cancer treatments in the United States, Europe and other international markets. Clovis’ product development programs generally target specific subsets of cancer, and the Company seeks to simultaneously develop, with partners, for those indications that require them, diagnostic tools intended to direct a compound in development to the patients most likely to benefit from their use.

Through these collaborations, Clovis has the flexibility to choose the most appropriate technology for each program, and the expertise to gain regulatory approvals and support global commercialization that will parallel Clovis’ regulatory and commercialization paths.

Cryos International

Cryos International is here to help people on their path to parenthood. We are proud to provide specialized reproductive products, excellent customer care, and personal consultation – and we have done so for over 30 years. Our sperm come from all backgrounds and represent a large variety of ethnicities and phenotypes.

We have computerised systems that have been designed and worked on for over a decade, in order to ensure traceability and security. Furthermore, we are licensed according to the FDA and EU-Tissue Directive, setting the highest standards of quality and safety. For Cryos, it’s personal!

Ferring Pharmaceuticals

Ferring Pharmaceuticals is a research-driven, specialty biopharmaceutical group committed to helping people around the world build families and live better lives. Headquartered in Saint-Prex, Switzerland, Ferring is a leader in reproductive medicine and women’s health, and in specialty areas within gastroenterology and urology. Ferring has been developing treatments for mothers and babies for over 50 years and has a portfolio covering treatments from conception to birth. Founded in 1950, privately-owned Ferring now employs approximately 6,500 people worldwide, has its own operating subsidiaries in nearly 60 countries and markets its products in 110 countries.
Fertilovit®
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Austrian-based Gonadosan Distribution GmbH is dedicated to the development and research of state-of-the-art nutraceuticals meeting the specific nutritional needs of men and women planning for pregnancy. The Fertilovit® range of supplements is based on the latest scientific data, tested in cooperation with big European ART centers and has been proven to support fertility treatment effectively. A variety of patent-protected preparations offer highly specific solutions for different male and female fertility patients, ranging from mature patients to patients with thyroid autoimmunity, endometriosis, PCOS, and idiopathic OAT.

Fotona
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With more than 50 years of experience, Fotona is a world-leading medical laser manufacturer recognized for its innovative, award-winning laser systems for applications in gynecology, surgery, aesthetics & dermatology and dentistry. Fotona’s combined Er:YAG and Nd:YAG laser systems are proven to be less invasive and highly effective for clinical and aesthetic gynecology treatments. We are proud to be the first manufacturer to introduce SMOOTH® mode technology for a range of non-invasive laser vaginal treatments. Our global distribution network spans across more than 90 countries, ensuring comprehensive support and service for Fotona laser users, including clinical training, workshops and hands-on demonstrations.

Gedeon Richter

www.richter.hu

Gedeon Richter Plc., headquartered in Budapest, Hungary, is a major pharmaceutical company in Central Eastern Europe, with an expanding direct presence in Western Europe, in China and in Latin America. Having reached a market capitalisation of EUR 4.1 billion (USD 4.9 billion) by the end of 2017, Richter’s consolidated sales were approximately EUR 1.4 billion (USD 1.6 billion) during the same year. The product portfolio of Richter covers many important therapeutic areas, including Women’s Healthcare, Central Nervous System, and Cardiovascular areas. Having the largest R&D unit in Central Eastern Europe, Richter’s original research activity focuses on CNS disorders. With its widely acknowledged steroid chemistry expertise, Richter is a significant player in the Women’s healthcare field worldwide. Richter is also active in biosimilar product development.

IBSA
Caring Innovation

www.ibsagroup.com

IBSA is an international pharmaceutical company with headquarters in Lugano, Switzerland. IBSA has developed an entirely new purification process in order to obtain a full range of highly purified, human gonadotrophins (hFSH, hMG and hCG). This patented process ensures both a high level of purity and the full respect of the natural glycosylation of these molecules. Recently IBSA has marketed a novel ingenious system to deliver progesterone subcutaneously in an aqueous solution. IBSA has managed to guarantee the highest quality of its products over the years due to the advantages of having a complete in-house manufacturing process in company-owned plants and thanks to a global quality system. The company’s other franchises include osteoarthritis, pain-management, dermatology and thyroid diseases.
Italfarmaco is a private Italian multinational company located in Milan, operating in Italy and abroad in both the pharmaceutical and fine chemical industries through its controlled and/or participated companies. Italfarmaco was established in 1938. Today Italfarmaco Group markets ethical products in Italy, Switzerland, France, Spain, Germany, Portugal, Greece, Russia, Turkey, Chile, Peru, Morocco and also for its subsidiary company Chemi Spa in USA and Brazil, where it employs over 3000 people. Its products, always with high therapeutic content, are mainly oriented towards the cardiovascular, immuno-oncologic, gynecological, osteoporosis and neurologic area.

KARL STORZ is a renowned manufacturer that is well established in all fields of endoscopy and can be considered as market leader in rigid endoscopy. The still family held company was founded in 1945 in Tuttingen, Germany, and has grown to one with a worldwide presence and 8,300 employees. KARL STORZ offers a range of both rigid and flexible endoscopes for a broad variety of applications. Today's product range also includes fully integrated concepts for the OR and servicing.

Kitazato Corporation is a global company based in Japan, dedicated to the assisted reproductive technologies field. World leaders in vitrification of human specimens thanks to the development and worldwide implementation of The Cryotop® Method, used by over 2,300,000 professionals a year, we perform extensive research, develop, manufacture and market medical devices and media to support a wide range of fertility treatments on the IVF LifeCycle, from IUI to PGT, including catheters, needles, oils and media. Our work over the last decades have led Kitazato to become the undisputed market leader in cryopreservation of human gametes.

Pantarhei Bioscience and Pantarhei Oncology
Pantarhei Bioscience (PRB) and Pantarhei Oncology (PRO) focus on innovative drug development in Woman's Health (WH) and Endocrine Cancers. PRB has developed a product pipeline based on its ability to identify, confirm and patent protect novel targets and medical uses of existing drugs, hormones, other endogenous human biologicals and combinations thereof. Pantarhei adheres to the highest scientific standards for preclinical and clinical drug development. The current pipeline of Pantarhei includes (i) Androgen Restored Contraception (ARC), adding dehydroepiandrosterone (DHEA) to oral contraceptives, (ii) the fetal estrogen Estetrol (E4) for the (co)-treatment of breast and prostate cancer and (iii) the use of the Zona Pellucida 3 (ZP3) antigen and biomarker for immunotherapy of ZP3 expressing tumors such as ovarian and prostate cancer.

Permanent International and European School in Perinatal, Neonatal and Reproductive Medicine.
Founded in Florence (Italy) in 2012, the School, inspired by the values of scientific culture, ethics and bioethics of life sciences, pursues the aim of promoting and enhancing the fundamental ideals of maternal infant medicine in its entire course: reproductive, periconceptional, maternal and child health periods. The School run courses of reproductive, perinatal and neonatal medicine and related disciplines, training programs, national and international conferences, congresses, debates, and any other event or action consistent with its objectives.
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